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THE MALDEN SURVEY



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THE MALDEN SURVEY

A REPORT ON THE CHURCH PLANTS OF A TYPICAL CITY, SHOWING THE USE OF THE INTERCHURCH WORLD MOVEMENT SCORE CARD AND STANDARDS FOR RATING CITY CHURCH PLANTS

Compiled Under the Direction of

WALTER SCOTT ATHEARN

DIRECTOR DEPARTMENT OF RELIGIOUS EDUCATION AND SOCIAL SERVICE, BOSTON UNIVERSITY

Author of the "Church School," "Religious Education and American Democracy," "A National System of Education"

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THE AMERICAN RELIGIOUS EDUCATION DEPARTMENT OF THE INTERCHURCH WORLD MOVEMENT OF NORTH AMERICA

By

N. L. ENGELHARDT
E. S. EVENDEN
F. W. HART
E. MORRIS FERGUSSON

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Preface

THIS survey of seventeen church and religious education plants of a typical American city has been issued for the purpose of illustrating the use of the Interchurch Score Card and Standards for Church and Religious Education Plants. It should be studied in connection with these standards. It is hoped that similar studies will be issued by other cities and that comprehensive and detailed comparative tables will be published showing the building condition throughout the United States.

Such a survey of the church and religious education plants of a city will be found to serve many purposes:

First, it directs the attention of the community to the newer forms of service which a modern church may be expected to perform.

Second, it presents the existing situation with its strong and weak points in the most concise, interesting and intelligible way possible; it shows the actual and relative adequacy of provision for various forms of service both by sections of the city and by different denominations.

Third, it shows where repairs and rearrangements are immediately necessary and also where these adjustments are economically advisable.

Fourth, it furnishes data necessary for guiding programs of building. When the findings of such a survey are studied in the light of the elements which are determining the rate, extent and direction of the city's future growth it is possible for a city church council or a denominational board to build in a way to provide for future extension.

With a survey of this character in its possession it is possible for a city to plan a building program for a period of years which will eventually result in an adequate number of well-located, properly constructed church and religious education plants.

This report is offered to the churches of America with the hope that it will aid in standardizing the physical equipment of both church and school.

WALTER S. ATHEARN, *Director.*

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CHAPTER I

The Method and Purpose of the Survey

THE building survey of the churches of the city of Malden, Massachusetts, was undertaken by the American Religious Education Division of the Interchurch World Movement in November, 1919.

Representing, as it does, the first survey of church plants by means of a score card, the Malden survey marks the beginning of a period of church development in which the building takes a more important part. For a number of years leaders in religious education have known that the church plant has an important role in the successful carrying on of the church work. The use of the church building as an outward and visible sign of the relative numerical or financial strength of the congregation is rapidly disappearing. False pride and denominational rivalry have caused the erection of pretentious structures, with little or no serious thought for the many types of service to be rendered by the building other than as the meeting place for the congregation on Sunday. Now the churches are realizing that modern economic conditions, the specialization of industry, the division of labor, the shorter working day, the new and, in some respects, disorganized home conditions, have produced radical social changes in which the churches have been either largely eliminated or disregarded. To meet these conditions the church must become an active factor in the social life of the community.

It is now recognized that only by becoming an active participant in the social lite of the people can it hope to modify that social life, to motivate it with Christian ideals. In order to make this active participation possible the church plant must offer more than an opportunity for a weekly sermon, in many cases connected only theoretically with the life of the week. The idea of a community church, or a community service church, was a direct outgrowth of this conception. It is one of the chief functions of the score card used in this survey to show the extent to which the physical equipment of the various churches limits or restricts their possibilities for such community service.

The principle of comparative judgments by means of a score card is by no means new, and has been successfully used in many different fields, particularly in the measurement of the efficiency and adequacy of public school buildings. In this last field the use of the score card

has resulted in a stronger realization of the inadequacies of existing buildings and a decided emphasis on the standards set in the different items.

The use of the score card for church buildings will undoubtedly show the present efficiency or inefficiency of church buildings and it will as surely determine and promulgate the highest accepted standards for church buildings in order that they may serve all their present-day needs.

The following seventeen churches and religious education plants were surveyed in Malden:

1. Centre Methodist Church
2. Eastern Avenue Baptist Church
3. Faulkner Methodist Church
4. First Baptist Church
5. First Trinitarian Congregational Church
6. First Parish in Malden, Universalist Church
7. Linden Congregational Church
8. Linden Methodist Church
9. Maplewood Baptist Church
10. Maplewood Congregational Church
11. Maplewood Methodist Church
12. Mystic Side Congregational Church
13. People's Church of the Nazarene
14. Robinson Methodist Church
15. St. Luke's Episcopal Church
16. St. Paul's Episcopal Church
17. Union Baptist Church

The scoring was done by Prof. N. L. Engelhardt, Prof. E. S. Evenden and Dr. F. W. Hart, of the Department of Educational Administration of Teachers College, Columbia University, New York City, and Dr. E. M. Fergusson, State Superintendent of Religious Education for Massachusetts. The actual visitation of buildings occupied the six days of November 12, 13, 14 and December 4, 5, 6, 1919.

The score card used in the evaluation of the efficiency of the church and religious education plants of Malden is one prepared for the scoring of city churches by the Religious Education Survey Department of the Interchurch World Movement. The score card conceives of a church and religious education plant as being divided into six main divisions and again divides each main division into component parts. The six main divisions are: I. Site; II. Building or Buildings; III. Service Systems; IV. Church Rooms; V. Re-

ligious School Rooms; VI. Community Service Rooms. These main divisions are considered in the light of one hundred and twelve subdivisions of the score card. The judgments of many church architects, pastors and students of religious education problems were utilized before the final selection and division of the items on the score card were made.

The judgments of large groups of trained men and women, interested in and familiar with the problems involved in church and religious education service, were also used in the distribution of points among the items on the score card. It was arbitrarily decided that 1,000 points should represent the perfect church plant. The number of points on each main division and literal subdivision of the score card is the median or middle evaluation placed on that division by more than two hundred competent judges. In other words, not the judgment of one individual or a small group of individuals decided that the one thousand points should be divided as is done on the score card, but the combined judgments of this large group form the basis for the division. These judges decided that the one thousand points of a perfect score should be divided into:

130 points for Site
150 points for Building or Buildings
160 points for Service Systems
170 points for Church Rooms
200 points for Religious School Rooms
190 points for Community Service Rooms

The maximum possible scores on such other items as "Heating and Ventilation," "Church Auditorium," "Class Rooms" and the like were determined in a similar manner through combining the judgments of this large group of judges. In order that the congregations of the churches scored may more clearly realize the significance of the scores, and be more conversant with the standards set for a modern church building, the statement of detailed standards in the light of which the scores are determined is given in full on pages 166 to 204.*

A church plant meeting all the requirements set forth in this score card would score one thousand points. This represents the maximum possible score. A church plant which scores between 750 and 1,000 points must be a high grade building, because scores within this range can only be secured by having a few points deducted from a number of the items or by noticeably failing to meet the standards in one or two

*As given here the standards vary in a few minor particulars from the form used in Malden.

SCORE CARD FOR A CITY CHURCH AND RELIGIOUS EDUCATION PLANT

	1	2	3
I. SITE			130
A. Location		55	
1. Accessibility	30		
2. Environment	25		
B. Nature and condition		30	
1. Drainage and soil	15		
2. Upkeep of site	15		
C. Size and form	45	45	
II. BUILDING OR BUILDINGS			150
A. Placement		20	
1. Orientation	10		
2. Position on site	10		
B. Gross structure		80	
1. Type and esthetic balance	20		
2. Material	10		
3. Height	5		
4. Roof	5		
5. Foundation	10		
6. Walls	10		
7. Entrances	5		
8. Condition	15		
C. Internal structure		50	
1. Stairways	10		
2. Foyer and corridors	10		
3. Basement	10		
4. Decorative attractiveness	20		
III. SERVICE SYSTEMS			160
A. Heating and ventilation		40	
1. Kind	10		
2. Installation	10		
3. Air supply	5		
4. Fans and motors	5		
5. Distribution	5		
6. Temperature control	5		
B. Fire protection system		40	
1. Apparatus	10		
2. Fireproofness	15		
3. Escapes	5		
4. Electrical wiring	5		
5. Fire doors	3		
6. Exit lights and signs	2		
C. Cleaning system		10	
1. Kind	2		
2. Installation	3		
3. Efficiency	5		

SCORE CARD

(*Continued*)

	1		2		3	
D. Artificial lighting system			15			
1. Gas and electricity	2					
2. Outlets and fixtures	5					
3. Methods and illumination	8					
E. Water supply system			15			
1. Drinking	5					
2. Washing	5					
3. Hot and cold water	5					
F. Toilet system			25			
1. Distribution	5					
2. Fixtures	5					
3. Adequacy and arrangement	8					
4. Seclusion	2					
5. Sanitation	5					
G. Other service systems			10			
1. Clocks and signal systems	5					
2. Church bells and chimes	2					
3. Telephone connections	2					
4. Service lifts	1					
H. Service rooms			5			
1. Workshops	2					
2. Service office	2					
3. Fuel room	1					
IV. CHURCH ROOMS					170	
A. Convenience of arrangement	20		20			
B. Auditorium			100			
1. Size and shape	15					
2. Seating	5					
3. Illumination	8					
4. Walls and ceiling	5					
5. Floor	5					
6. Balcony	8					
7. Pulpit and platform	5					
8. Baptismal equipment	5					
9. Communion equipment	2					
10. Organ and piano	15					
11. Choir gallery	10					
12. Choir rooms	5					
13. Acoustics	5					
14. Visualization equipment	5					
15. Cloak or check room	2					
C. Chapel or small assembly	15		15			
D. Parlor and church board room	5		5			
E. Church office	10		10			
F. Pastor's study	15		15			
G. Church vault	5		5			

SCORE CARD

(Concluded)

	1		2		3	
V. RELIGIOUS SCHOOL ROOMS					200	
A. Location and connection	15		15			
B. Assembly room			60			
1. Size and shape	10					
2. Seating	8					
3. Illumination	10					
4. Walls, ceiling and floor	10					
5. Stage	10					
6. Musical equipment	5					
7. Visualization equipment	5					
8. Auxiliaries	2					
C. Class rooms			90			
1. Adequacy of number	30					
2. Size and shape	15					
3. Seats and desks	10					
4. Illumination	10					
5. Walls and ceilings	5					
6. Floors	5					
7. Blackboards and bulletins	5					
8. Doors and closets	5					
9. Instructional equipment	5					
D. Cloak rooms and wardrobes	15		15			
E. Superintendent's office	10		10			
F. Supply rooms	10		10			
VI. COMMUNITY SERVICE ROOMS					190	
A. Rooms for general use			60			
1. Recreation and dining	30					
2. Kitchen	15					
3. Library and reading room	15					
B. Rooms for social service			70			
1. Women and mothers' room	15					
2. Girls' club rooms	10					
3. Men's club room	15					
4. Boys' club rooms	10					
5. Nurses' and rest room	8					
6. Day nursery room	5					
7. Civic center	5					
8. Social workers' office	2					
C. Recreation and athletic rooms			60			
1. Gymnasium	20					
2. Locker rooms	10					
3. Showers	10					
4. Swimming pool	5					
5. Hand-ball court	5					
6. Game and amusement rooms	5					
7. Bowling alley	5					
Total possible score	1,000		1,000		1,000	

of the major items. This latter situation may arise in churches where for any reason they do not wish to provide for items set forth in the standards.

A church plant which scores between 500 and 750 points may be considered as usable but so inadequate that extensive alterations and additions would be necessary in order to have the plant serve as anything but a handicap in the service program of the church. The lower the score within this range the more extensive and the more radical the changes necessary in order that it may be considered in any sense satisfactory. Any building scoring below 500 can be economically abandoned and a new structure erected, provided that the group using the church wishes to have it meet the standards as they have been established for this score card.

The total score for any building is determined by the score given upon the six main items: Site, Building, Service Systems, Church Rooms, Religious Instruction Rooms and Community Service Rooms. A summary of the scores given on these items and the total score awarded each of the seventeen churches are given in Table I on page 14. This table gives a general view of the adequacy of the church and religious education plants of Malden. It is easily seen by comparisons with the total number of points possible for each item, that even in the three items in which Malden makes its most adequate provision, viz., Site, Building and Church Rooms, the city falls far short of standard requirements set forth in the score card details. Malden is lamentably weak in its provision for Service Systems, for Religious School Rooms and for Community Service Rooms. Particularly is this true of the last item. In the first column of Table I, the seventeen church and religious education plants are ranked in the order of the total scores allotted each. It will be observed that the highest score of 751 out of a possible 1,000 points has been allotted the First Baptist plant. The Centre Methodist plant has been placed second with a score of 554 points while the Maplewood Congregational, St. Luke's and the Union Baptist plants have been placed at the lower end of the seventeen with scores of 316, 303 and 225, respectively. In interpreting the scores, it is best to consider them as being located within certain groups. The plant with the highest score is located in the 750 to 800 point group; one plant is within the 550 to 600 point group; one in the 500 to 550 point group; one within the 450 to 500 point group; five within the 350 to 400 point group; four within the 300 to 350 point group, and one below the 300 point on the 1,000 point scale.

Chart I presents graphically the scores of Table I and permits a

TABLE I

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted

Showing distributed scores on the main items of the score card as compared with the total possible score for each main item.

CHURCHES SCORED	Rank on basis of total score allotted to entire Plant	**Maximum Possible Score** and allotted scores	SUB-ITEMS **Maximum Possible Score** and Allotted Scores					
			I Site	II Building	III Service Systems	IV Church Rooms	V Religious School Rooms	VI Community Service Rooms
		1,000	**130**	**150**	**160**	**170**	**200**	**190**
First Baptist	1	751	105	131	135	152	140	88
Centre Methodist	2	554	70	86	81	121	119	77
First Parish in Malden, Universalist	3	547	100	110	68	116	105	48
St. Paul's Episcopal	4	469	85	94	59	112	85	34
Robinson Methodist	5	419	87	82	56	88	76	30
Faulkner Methodist	6	406	93	99	73	77	54	10
Linden Methodist	7	401	77	93	54	86	69	22
Mystic Side Congregational	8	399	103	70	30	98	71	27
People's Church of the Nazarene	9	380	75	79	48	95	67	16
First Congregational	10	363	70	59	49	93	61	31
Eastern Avenue Baptist	11	359	61	80	58	105	44	11
Maplewood Baptist	12	351	71	56	41	87	65	31
Linden Congregational	13	330	68	71	39	61	66	25
Maplewood Methodist	14	329	78	71	26	87	55	12
Maplewood Congregational	15	316	60	64	45	69	60	18
St. Luke's Episcopal	16	303	71	63	30	79	44	16
Union Baptist	17	225	98	44	26	37	13	7
Maximum Possible Score		**1,000**	**130**	**150**	**160**	**170**	**200**	**190**

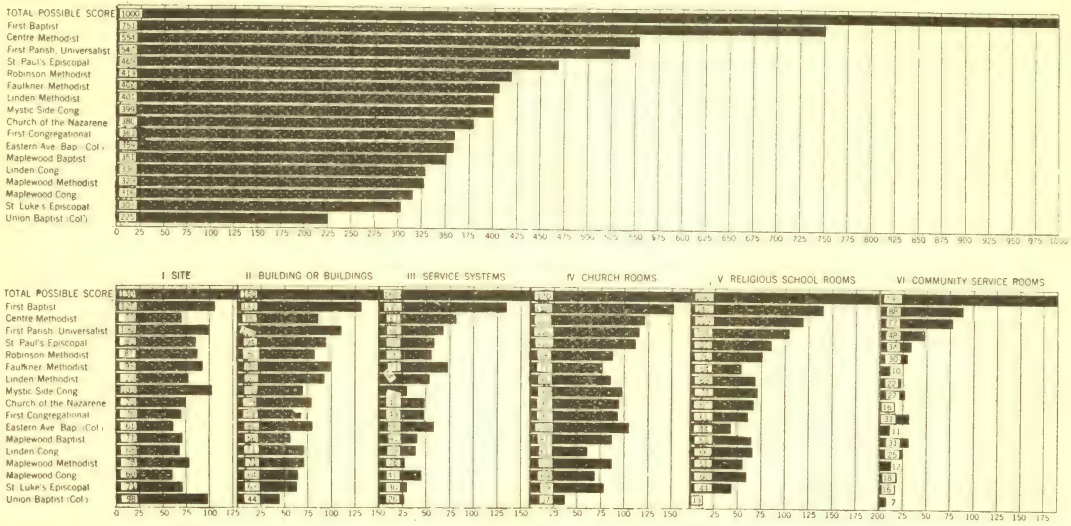
NOTE—Read: 751 points out of a possible 1,000 points have been allotted the First Baptist Church Plant; 105 points out of a possible 130 on Site, etc.

Chart I

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON A 1000 POINT SCORE CARD

THE LOWER CHARTS SHOW THE UPPER CHART SUBDIVIDED INTO THE SIX MAIN DIVISIONS OF THE SCORES



clearer visualization of the situation in the seventeen plants, together with a comparison with the 1,000 point standard.

In discussing the scores allotted the seventeen plants it is desirable to treat them under the six main divisions of the score card. Detailed analyses follow for each of these items with reference to particular situations or illustrations to make clear the discussion. A reference to Table II will assist in forming a summary regarding the entire situation in the seventeen plants with respect to the six major items. In Table II the seventeen plants are distributed in four groups for each of the six main items of the score card. In group one will be found the plants which have been allotted 76 to 100 per cent. of the total possible score. In group two will be found all churches which have been allotted 51 to 75 per cent. of the total possible score, etc.

TABLE II

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Distributed Over Percentage Ranges of Efficiency as Measured by the Score Card. Based on Scores Allotted to Six of the Major Items.

Item Considered in Percentage Commutations	Percentage Ranges and Number of Churches Falling Within Each Percentage Group			
	0-25%	26-50%	51-75%	76-100%
I. Site	0	2	11	4
II. Building or Buildings	0	8	8	1
III. Service Systems	5	10	1	1
IV. Church Rooms	1	4	11	1
V. Religious School Rooms	3	11	3	0
VI. Community Service Rooms	14	3	0	0
Total Scores	1	13	2	1

A second interpretation of the scores may be made from Table III, page 17. The seventeen church and religious education plants are distributed in four groups according to the percentages of the possible maximum scores which have been allotted on various important sub-items of the score card.

Table III may be read as follows: Ten of the church plants have been allotted a score on size and form of site which falls between zero and 25 per cent. of the total possible score. It will be seen from Table III that the church plants of Malden are particularly deficient with respect to size and form of site, fire protection, water supply, rooms for social service and rooms for recreation and athletics.

TABLE III

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Distributed Over Percentage Ranges of Efficiency as Measured by the Score Card. Based on Scores Allotted to Sixteen of the More Important Sub-Items.

Sixteen of the More Important Sub-Items	Percentage Ranges and Number of Churches Falling Within Each Percentage Group			
	0-25%	26-50%	51-75%	76–100%
Size and Form of Site	10	2	4	1
Gross Structure	0	10	5	2
Internal Structure	3	12	1	1
Heating and Ventilating	8	8	0	1
Fire Protection	15	1	1	0
Cleaning	0	8	3	6
Artificial Lighting	1	5	9	2
Water Supply	11	5	0	1
Toilet System	6	7	3	1
Church Rooms, Convenience and Arrangement	3	4	6	4
Auditorium	0	2	11	4
Sunday School Assembly	1	11	4	1
Sunday School Class Room	4	9	4	0
Community Service Rooms—General	6	8	1	2
Rooms for Social Service	14	2	1	0
Rooms for Recreation and Athletics	17	0	0	0

In the following pages are given summary scores of the seventeen plants, with brief general statements concerning each plant. The exteriors of all plants are presented in connection with these summaries and statements.



ILLUSTRATION 1. FIRST BAPTIST CHURCH

First Baptist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	105	130
II. Building or Buildings	131	150
III. Service Systems	135	160
IV. Church Rooms	152	170
V. Religious School Rooms	140	200
VI. Community Service Rooms	88	190
Total	751	1,000

The score allotted to this church and religious education plant indicates that in many ways it conforms to the standards developed for an ideal plant. The buildings are located at the intersection of two of the main streets of the city and in close proximity to other community buildings such as the public library and the public high school. The buildings would make an attractive addition to any community.

The outstanding features of this plant are the well-planned auditorium, the satisfactory service systems, the large number of high grade and separate classrooms and the exceptionally well-equipped kitchen. The limitations of the site, the unsatisfactory natural lighting of some of the rooms, and the omission of certain community service rooms included in the score card have placed this building in the 700-800 point group. Because the main church is a reconstructed building with the limitations which that puts upon room arrangement and the like, the First Baptist does not receive the perfect score on a number of items. It is the loss of the few points on many items which reduces the total score, and not the failure to provide accommodation for all forms of service.



ILLUSTRATION 2. CENTRE METHODIST CHURCH

Centre Methodist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	70	130
II. Building	86	150
III. Service Systems	81	160
IV. Church Rooms	121	170
V. Religious School Rooms	119	200
VI. Community Service Rooms	77	190
Total	554	1,000

The emphasis placed by this church upon a high-grade church auditorium with its desirable equipment and upon a religious school equipment which permits of the segregation of many classes is evidenced in the detail score given these items. The building is located on a corner site with non-fireproof business houses in the immediate neighborhood. The size of the site has necessitated building upward. This has produced a second story auditorium and a three story school building, which should be allowed only in highly fire resistive construction. No out-of-door activities are possible on this site. The location of this downtown church opens great possibilities for community service which cannot be adequately met by the limited existing provisions. The vacuum cleaning and elevator service installations are striking features of this plant.

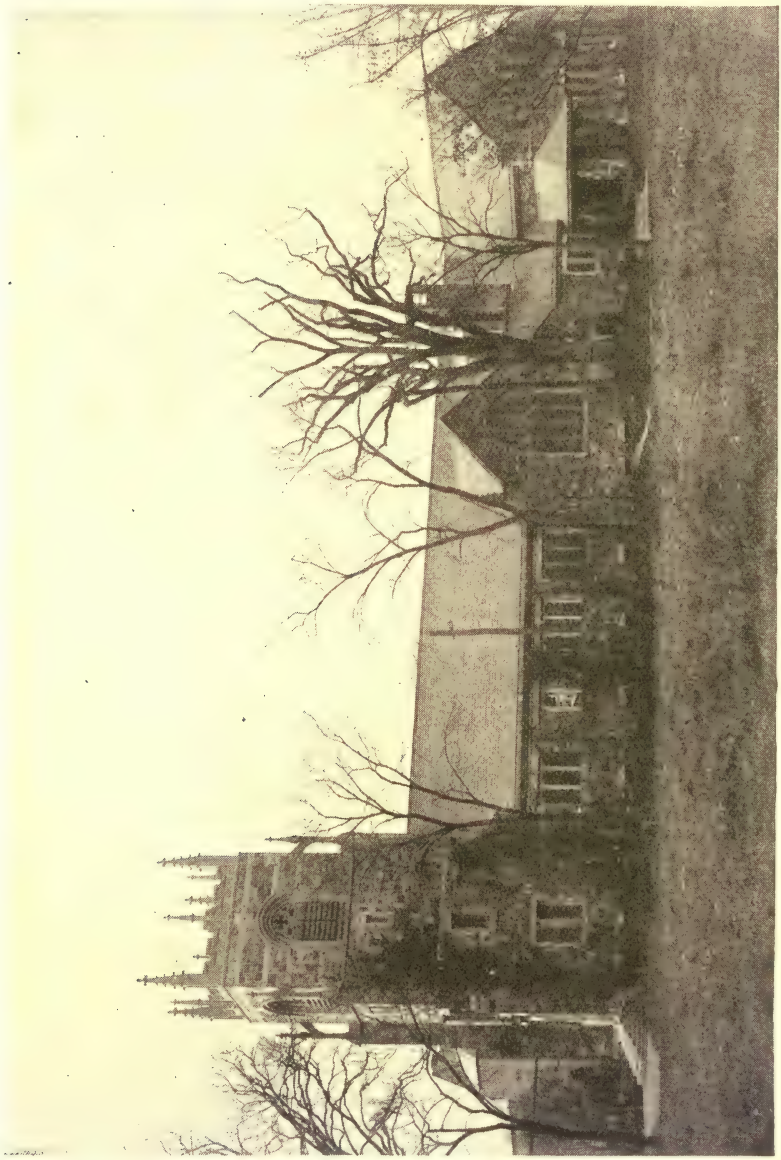


ILLUSTRATION 3. FIRST PARISH IN MALDEN, UNIVERSALIST CHURCH

First Parish in Malden, Universalist

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	100	130
II. Building	110	150
III. Service Systems	68	160
IV. Church Rooms	116	170
V. Religious School Rooms	105	200
VI. Community Service Rooms	48	190
Total	547	1,000

Conspicuously and pleasingly located on an intersection of streets the First Parish in Malden, Universalist, is one of the most striking and attractive churches in Malden. It is unfortunate from the standpoint of the service which this church should render that so picturesque an exterior should be handicapped by an interior equipment and arrangement inadequate in many respects. A beautiful auditorium is partially spoiled by insufficient light, the corridors are narrow and poorly arranged, the stairways are winding and inadequate, the classrooms are too few in number, poorly lighted and poorly equipped; the service systems are in many cases inadequate, while the element of fire protection has received very little consideration, either in the basement where the furnace is located, or in the ease with which large numbers can get from one part of the building to another. The church has made commendable provision for some forms of special service neglected in many of the other churches in Malden, even though these do not meet the standards set by the score card. Some of these are the pastor's study, recreation room, auditorium with stage, and dining room and kitchen. The convenience of the rooms and the service of the church could be materially increased if several of the rooms were rearranged with this in mind.

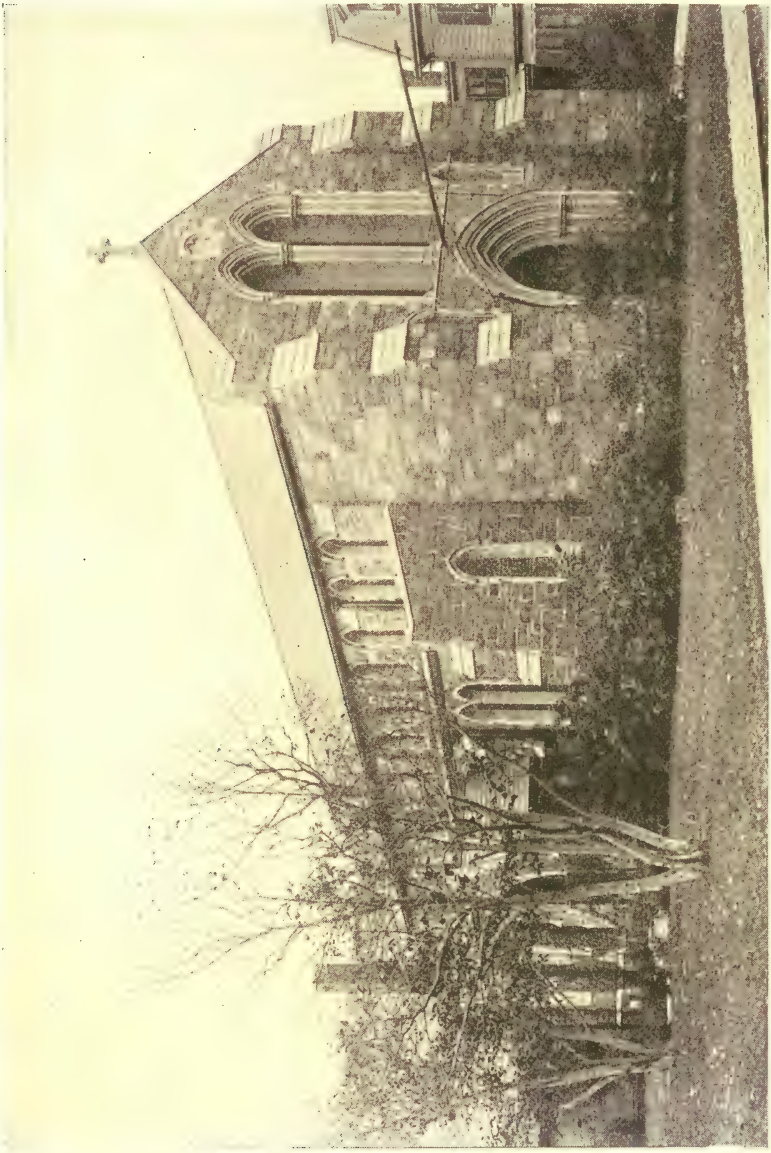


ILLUSTRATION 4. ST. PAUL'S EPISCOPAL CHURCH

St. Paul's Episcopal Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	85	130
II. Building	94	150
III. Service Systems	59	160
IV. Church Rooms	112	170
V. Religious School Rooms	85	200
VI. Community Service Rooms	34	190
Total	469	1,000

If the high standard set in the construction of the new church auditorium section of this plant had prevailed throughout, the score allotted would have been very much higher. This new section accounts for the 112 points on church rooms and for much of the score on Item II. It is hoped that, when the old sections of this plant are replaced by new buildings, the standards of this score card will be used as a guide. There will be a distinct need for additional land if the desirable standards are reached. It has already been recognized by the members of St. Paul's Church that the present school and community provisions are totally inadequate.

The attractive elements in the present situation are the harmonious relationship between the landscape and the new building and the ease of entrance and exit to the new building.



ILLUSTRATION 5. ROBINSON METHODIST CHURCH

Robinson Methodist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	87	130
II. Building	82	150
III. Service Systems	56	160
IV. Church Rooms	88	170
V. Religious School Rooms	76	200
VI. Community Service Rooms	30	190
Total	419	1,000

This church, like a number of others, has had its greatest emphasis placed upon a good church auditorium with only slight attention paid to the other needs and services of such a plant. The building is of frame construction, pleasantly situated in a residential section, but on a very limited site.

The church is unfortunate in its main entrance and in its second story auditorium. The present structure is the result of an addition to an older building. A better plan would have involved discarding the old structure, increasing the size of the site and building a fire-resistive structure which embodied the standards set up by modern needs.

Attractive elements in this situation are the library and the homelike tendency in the rooms of the first floor.

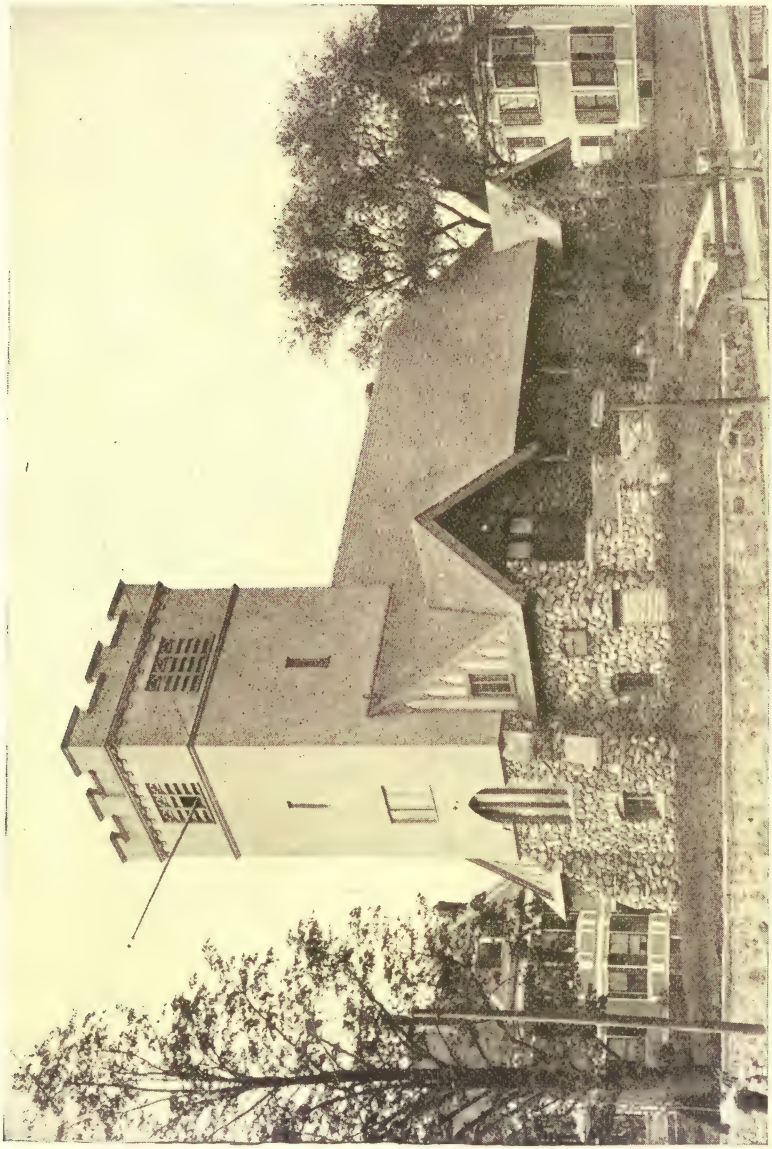


ILLUSTRATION 6. FAULKNER METHODIST CHURCH

Faulkner Methodist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	93	130
II. Building	99	150
III. Service Systems	73	160
IV. Church Rooms	77	170
V. Religious School Rooms	54	200
VI. Community Service Rooms	10	190
Total	406	1,000

This church presents an attractive exterior. Although its construction is recent as compared with that of many of the other Malden plants, there is little evidence of planning for the future in its site, the plan of the building or its equipment.

The site, although much more satisfactory than others, will never suffice for a large community plant, the need for which will arise in this locality. The building lacks to a large degree desirable educational and community service provisions. The attractive elements in the case are the artificial lighting of the auditorium and the pleasing exterior. Little else about the building commends itself for mention.



ILLUSTRATION 7. LINDEN METHODIST CHURCH

Linden Methodist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	77	130
II. Building	93	150
III. Service Systems	54	160
IV. Church Rooms	86	170
V. Religious School Rooms	69	200
VI. Community Service Rooms	22	190
Total	401	1,000

This small plant is one of the best maintained of the seventeen. Its interior is fairly well planned. The desire to keep costs at the lowest possible point is evident, however, in many elements of construction, such as the plaster board walls of the basement rooms, the heating ducts and the concrete basement floors.

This building was scrupulously clean throughout. Its equipment was simple, yet well cared for. Its ornamentation was inexpensive yet attractive and gave evidence of much thought.

No doubt, although the site is small, the service systems limited, and auxiliary rooms few in number, the plant is, in many respects, efficiently serving its patrons.



ILLUSTRATION 8. MYSTIC SIDE CONGREGATIONAL CHURCH

Mystic Side Congregational Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	103	130
II. Building	70	150
III. Service Systems	30	160
IV. Church Rooms	98	170
V. Religious School Rooms	71	200
VI. Community Service Rooms	27	190
Total	399	1,000

This church falls in the 350-400 point group. The outstanding features of the plant are the relatively large site, the attractive front classroom and the businesslike pastor's study.

The congregation has outgrown this plant and has already planned to build a new structure. It is hoped that the faults of the old building will be eliminated in the new. In this building the fire danger is ever present, the kitchen facilities are very poor, the toilets fail to reach a satisfactory standard, storerooms are inadequate, the lighting system is defective, the kindergarten room unfortunately placed and many desirable features are lacking entirely.



ILLUSTRATION 9. PEOPLE'S PENTECOSTAL CHURCH OF THE NAZARENE

People's Pentecostal Church of the Nazarene

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	75	130
II. Building	79	150
III. Service Systems	48	160
IV. Church Rooms	95	170
V. Religious School Rooms	67	200
VI. Community Service Rooms	16	190
Total	380	1,000

This church is well located on a corner lot and so orientated as to command the best possible lighting. It is a relatively new structure but of a construction more typical of residences than of churches. The site is so small that the church almost stands on the sidewalk. The interior of the church is very attractive, with plain walls, well-harmonized woodwork, artistic and efficient indirect lights and new and well-kept furniture. The general effect is somewhat spoiled by some large water stains on the walls resulting from leaks, which in turn were results of light construction. The basement is very small, extremely low and entirely exposed to fire risks from the furnaces. The provision for religious education rooms is convenient as an enlargement of the auditorium, but neither well-arranged nor adequate for graded instruction. The fact that the pastor's home is attached to the church makes it possible for him to be directly in touch with the work of the church. The score of this church is lower than it otherwise would be because of the entire absence of all rooms for community service—a provision which the church does not believe in making.



ILLUSTRATION 10. FIRST TRINITARIAN CONGREGATIONAL CHURCH

First Trinitarian Congregational Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	70	130
II. Building	59	150
III. Service Systems	49	160
IV. Church Rooms	93	170
V. Religious School Rooms	61	200
VI. Community Service Rooms	31	190
Total	363	1,000

Constructed long before the extensive community service suggested by the score card standards was required of churches, this plant is found deficient in many particulars. The maintenance of this building has been high-grade with the exception of the basement. Its location was at one time much more desirable than today. The environment indicates that the church is gradually being crowded out by industrial and commercial developments.

The largest number of points has been allotted this building in its church rooms, especially its auditorium. The almost total lack of classrooms, the limitations of the community service rooms and its non-standard service systems account for much of the low score.



ILLUSTRATION II. EASTERN AVENUE BAPTIST CHURCH

Eastern Avenue Baptist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	61	130
II. Building	80	150
III. Service Systems	58	160
IV. Church Rooms	105	170
V. Religious School Rooms	44	200
VI. Community Service Rooms	11	190
Total	359	1,000

This church has little to recommend it to the passerby. Its site is undesirable and the building in many ways does not even resemble a church. Its interior, however, is commendable in many respects, which accounts for its receiving a higher score than would appear warranted from an outside view. The building is scrupulously clean even to the basement, the decoration of walls and ceiling is recent, harmonious and attractive and the service systems, while far from standard, are efficient and in a good state of upkeep. The congregation has given most of its attention to the efficiency of its church rooms which receive a relatively high score. In addition to the main auditorium, provision has also been made for a small assembly room which can also serve for church board meetings, for a special room equipped for communion services, for a pastor's study and for a church office.

When the plans that are now being discussed for finishing the basement and making adequate provision for preparation rooms for baptismal ceremonies are made actualities, this church will find its opportunities much increased and will be approaching a maximum use of a poor building.



ILLUSTRATION 12. MAPLEWOOD BAPTIST CHURCH

Maplewood Baptist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	71	130
II. Building	56	150
III. Service Systems	41	160
IV. Church Rooms	87	170
V. Religious School Rooms	65	200
VI. Community Service Rooms	31	190
Total	351	1,000

The total score allotted this church is practically the same as that for the Eastern Avenue Baptist, although the exterior views would not show them equal. The Maplewood Baptist is a distinctly church-like frame structure but there is little to commend in its internal structure. The building has not been recently redecorated, and little attention has been paid to general esthetic effect. The building is a fire-trap from the rubbish-strewn, ash-filled basement to the paper-filled closet under the roof. The service systems are old, insufficient and poorly installed, particularly the heating, lighting, and toilet systems. The religious school rooms are too few, poorly arranged, and equipped with old and uncomfortable furniture.

The church is used for some community activities now, though its equipment for this form of service is very inadequate and in a discouragingly poor condition. A church library is provided though it has the appearance of being seldom used. It would be possible greatly to increase the community service of this present plant, although no amount of remodelling would make it approach the standards for the various items.



ILLUSTRATION 13. LINDEN CONGREGATIONAL CHURCH

Linden Congregational Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	68	130
II. Building	71	150
III. Service Systems	39	160
IV. Church Rooms	61	150
V. Religious School Rooms	66	200
VI. Community Service Rooms	25	190
Total	330	1,000

The Linden Congregational Church was allotted about one-third of its possible score. This is due in part to the fact that it is a small church serving a small congregation and seriously limited not only in its equipment but also in the lines of activity it can support. It is possible that much more would be gained if congregations of this size would give up a little of the convenience of easy accessibility and attend a larger community center church which possesses the physical equipment necessary for a richer program of religious instruction and community service.

The site of this church is too small for anything but the building to stand upon and is also poorly drained. The present building serves as a handicap, not only because of the meager number of rooms available but also because of their poor equipment. The main auditorium being on the second floor with inadequate means of access is a source of both inconvenience and danger, even though it makes possible a first or ground floor without any excavation for a basement.



ILLUSTRATION 14. MAPLEWOOD METHODIST CHURCH

Maplewood Methodist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	78	130
II. Building	71	150
III. Service Systems	26	160
IV. Church Rooms	87	170
V. Religious School Rooms	55	200
VI. Community Service Rooms	12	190
Total	329	1,000

This is another church which reaches about one-third of its possible efficiency as shown by its total score. For reasons previously given, probably it would better be abandoned in order that its congregation might join forces with some larger, better equipped church.

The building is old and poorly arranged. The rooms used for religious instruction are well grouped although they are inconvenient of access and poorly furnished. The service systems—heating, lighting, toilet, water supply and fire protection are among the poorest in all of the churches in the city. As in many of the smaller churches, the auditorium is the most commendable room of the church, but this one is made less so by being on the second floor and provided with very inadequate stairways. Almost no effort has been made to do any form of community service other than the traditional, distinctly religious forms. The present church plant would seriously lessen the chances of success for any such program.



ILLUSTRATION 15. MAPLEWOOD CONGREGATIONAL CHURCH

Maplewood Congregational Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	60	130
II. Building	64	150
III. Service Systems	45	160
IV. Church Rooms	69	170
V. Religious School Rooms	60	200
VI. Community Service Rooms	18	190
Total	316	1,000

This frame church is built on a site inadequate for any other purpose than the location of a building. The site is on such a steep slope that it prevents the use of any part of it or of nearby ground if acquired for any service. Landscape effects are almost impossible and the low, swampy land at the rear of the site prevents any expansion in that direction. The main elements in this situation are a church auditorium, rather severe but well maintained and a school assembly room about which there is little semblance of modernity. With limited equipment, a paucity of classrooms and almost no suitable service rooms, this plant can render only in slight degree the community service which might be possible.

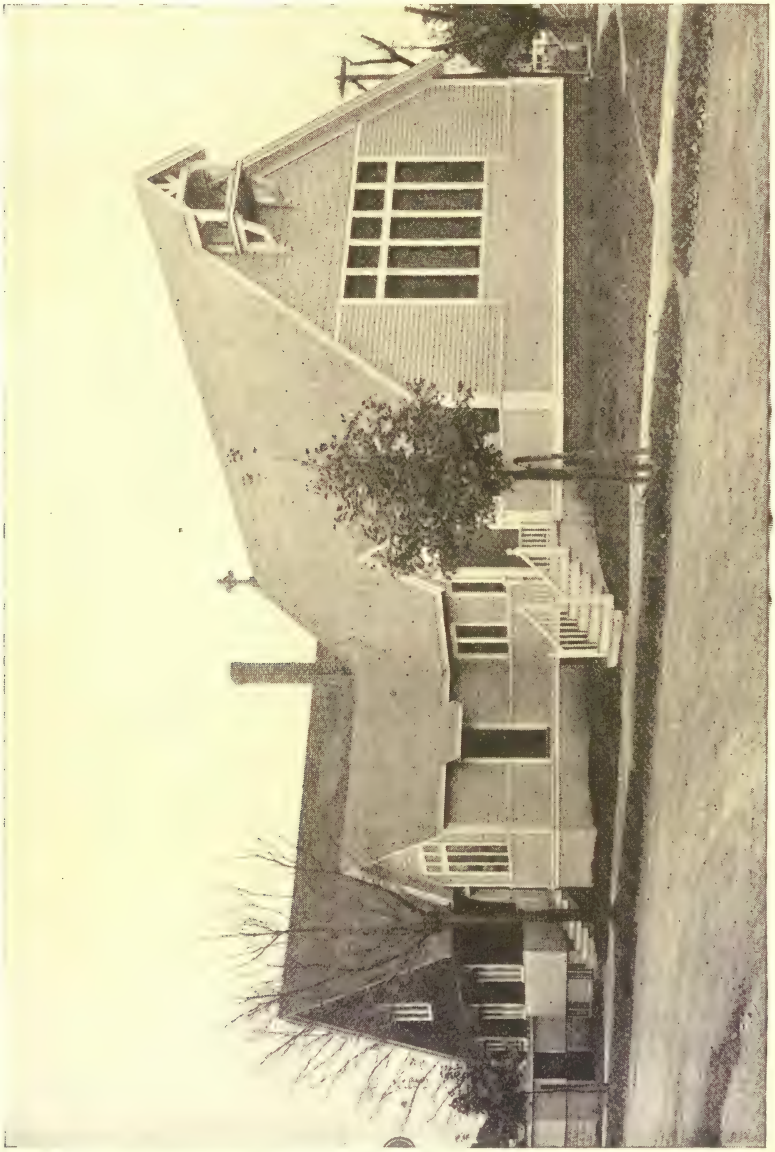


ILLUSTRATION 16. ST. LUKE'S EPISCOPAL CHURCH

St. Luke's Episcopal Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	71	130
II. Building	63	150
III. Service Systems	30	160
IV. Church Rooms	79	170
V. Religious School Rooms	44	200
VI. Community Service Rooms	16	190
Total	303	1,000

Although this church is located in one of the less densely settled sections of Malden, its buildings cover a very large part of its site. The Linden section of Malden cannot adequately support three or four large community service church and religious education plants. The inadequate plants which exist there today are evidence of this fact. A cooperative community spirit should produce one large community house for this section. Such a plan need not interfere with differences in forms of worship but could assure religious education for the children and service for adults far beyond what has been found possible in the existing churches.

The present St. Luke's plant has little to commend it. It represents the struggle of a small group to secure that which could only be obtained through a much greater consolidation of interests. The provisions for classrooms, the meagerly equipped auditorium, the poorly furnished kitchen, the unfinished basement, are all evidences of hopes unfulfilled.



ILLUSTRATION 17. UNION BAPTIST CHURCH

Union Baptist Church

Score Card Item	Allotted Score	Maximum Possible Score
I. Site	98	130
II. Building	44	150
III. Service Systems	26	160
IV. Church Rooms	37	170
V. Religious School Rooms	13	200
VI. Community Service Rooms	7	190
Total	225	1,000

About half of the score on this building has been allotted to the site. There is little else about this plant that has anything to commend it. It represents very little achievement on the part of any community group and should be replaced at the earliest moment by a standard plant.



ILLUSTRATION 18. BASEMENT OF UNION BAPTIST CHURCH

CHAPTER II

Item I. The Sites of the Seventeen Church and Religious Education Plants

FROM an examination of the total scores allotted on "Site" for the different churches it is obvious that insufficient attention has been given to this important item.

At the present time it may fairly be said that there is not a single one of the seventeen church sites of Malden that does not decidedly restrict the opportunity of its church for real community service. The three best sites are, in order, those of the First Baptist, the Mystic Side Congregational and the First Parish in Malden, Universalist. These three have a little more ground than is necessary for the buildings, which could be used for several outdoor purposes in addition to providing the essential feature of decorative and attractive grounds. Very little has been done in this last respect on many of the church sites of Malden. Many of the grounds were, when visited, unattractive, poorly cared for and, in several cases, littered with rubbish, broken glass and other discarded matter. The church which wishes to be a community center should realize that it must offer an attractive and inviting exterior. Some of the places, whose influence the church is seeking to replace, have long demonstrated their recognition of the value of an attractive exterior.

The total score for "Site" is composed of the score given on the three elements which determine the desirability of a site, viz., location, nature and condition, and size and form. The total and relative scores given on these items are shown in Table IV and Chart II. The lower charts show the upper chart divided according to the major sub-divisions of the Item—Site. A more detailed discussion of these elements in relation to the sites in Malden will give a much more accurate idea of real needs in this matter.

A. Location

The score on location is made from the two items of accessibility and environment. In this item the church and religious education plants of Malden score relatively high, the range being between thirty-seven and fifty out of a possible fifty-five points. This is due largely to the high score given most of the sites on accessibility. This is the result of two conditions; first, the fairly adequate street rail-

way system and the hard surface roads which make the churches rather easy of access and second, the scattering of small churches of several of the denominations over the city in such a manner that the congregations do not have far to go. Because of these two items the scores would indicate that the churches were better located than they really are. Malden as a city is the result of a union of small communities. In each of these, denominational churches had been organized and had tended to gather their patrons into the vicinity of the church. Consequently, even now the religious map of the city will show small colonies, as it were, of a particular church creed grouped about the several churches. The churches are consequently quite uniformly accessible. Some of the same sites would not be given as high a score on this point were they to serve a larger group. Some of the churches, such as the First Baptist, the Centre Methodist the First Congregational and the Mystic Side Congregational, are rendered more accessible by virtue of the street car lines, but they are also so close to busy lines that the noise of the cars as well as the danger of street crossing are distinct disadvantages.

The second item which determines the score given on location is the environment. The established standards maintain that the environment should be attractive and that the adjoining property should be clean and well kept. It is next to impossible to meet this standard in the distinctly down-town church, the one surrounded with business houses of all kinds. Such a church rarely has site enough to prevent some of the windows from opening upon the back yard of a restaurant, the rear of a theatre or some other equally unattractive outlook.

The general environment of the First Baptist Church is materially heightened by the presence of the public library. This is clearly shown in illustration 1, page 18, which shows the location of the First Baptist plant at one of the most central street intersections in the city. The increased effect which can be secured by planning buildings, which are to serve community needs, in architectural harmony with each other is quite evident in this case. Such proximity causes each building to render the other more imposing without in any way detracting from it. The general neighborhood of the First Parish in Malden Universalist Church is attractive, as is that of St. Paul's, to a certain degree. There are elements of attractiveness in the location of other plants, such as the Mystic Side Congregational and the Robinson Methodist. Illustrations No. 8 and No. 5, pages 32 and 26 show these buildings located in their general environment. There is every evidence that the location of the majority of the seventeen plants was not prompted by visions of extensive community

TABLE IV

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item I—Site

Showing distributed scores on the major subdivision of this item as compared with the total possible score for each subdivision.

Churches Scored	Rank on Basis of Scores Allotted on Item I	Maximum Possible Score and Allotted Scores	Sub-Items Maximum Possible Score and Allotted Scores		
			A Location	B Nature and Condition	C Size and Form
		130	**55**	**30**	**45**
First Baptist	1	105	50	30	25
Mystic Side Congregational	2	103	47	26	30
First Parish in Malden, Universalist	3	100	45	30	25
Union Baptist	4	98	43	30	25
Faulkner Methodist	5	93	44	22	27
Robinson Methodist	6	87	45	27	15
St. Paul's Episcopal	7	85	40	30	15
Maplewood Methodist	8	78	40	28	10
Linden Methodist	9	77	40	27	10
People's Church of the Nazarene	10	75	45	25	5
St. Luke's Episcopal	11½	71	43	20	8
Maplewood Baptist	11½	71	43	22	6
Centre Methodist	13½	70	35	30	5
First Congregational	13½	70	35	25	10
Linden Congregational	15	68	43	15	10
Eastern Avenue Baptist	16	61	40	16	5
Maplewood Congregational	17	60	37	18	5
Maximum Possible Score		**130**	**55**	**30**	**45**

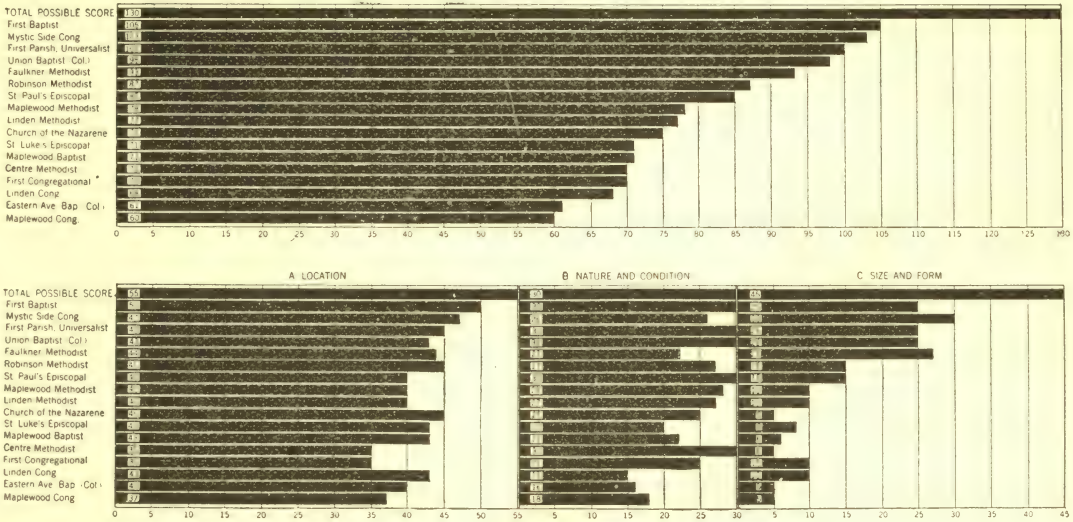
Note—Read: Fifty points of a possible fifty-five points have been allotted the First Baptist Church Plant on the Item "Location," etc.

CHART II—SITES

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM I - SITE

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM - SITE



service or with the purpose of making such plants the center about which a group of homes might rise which were all to be welded together into a community by this common agency, the church. In some cases, the churches are not surrounded by well-maintained homes nor are there evidences that the presence of the church in certain sections has in any great degree produced betterment in the kinds of yards and lawns which its neighbors maintain. It might be expected that the church, through its immediate environment and general exterior should establish standards for its own community. This has not become an accepted policy in Malden. From the standpoint of unattractiveness of environment probably the three most undesirable sites are the Eastern Avenue Baptist, the First Congregational and the Maplewood Congregational. In the latter instance the church is located on the edge of a low, unattractive, marshy piece of land with no chance to expand in any direction save into the swamp. The environment of this church is shown in illustration 23, page 60. The environment of both sides of the First Congregational as seen in illustrations 19 and 21, page 57, is exceedingly undesirable for a community church plant. American cities may be expected to develop programs of cleanliness and upkeep which will eliminate unnecessary dumps, refuse piles and indiscriminate scattering of waste matter. Churches may be powerful agencies in this development by beginning at home and prevailing upon their neighbors to adopt this more sane and healthful policy.

The immediate environment of St. Paul's and the plant of the First Parish in Malden, Universalist, as seen in illustrations 4 and 3, pages 24 and 22, shows how much two of the churches are contributing toward beautifying their neighborhood.

The small size of some of the church sites has made it possible for adjoining landowners to build frame buildings in close proximity to the church structures. Thus the fire danger has been considerably increased, especially in the case of the frame church buildings. It seems reasonable to expect that a building, erected through the combined efforts of a group of people and intended for common service, should be safeguarded from the fire danger which an individual creates when he places his frame residence within a very short distance from the church. An undesirable environment of a church due to the congestion of buildings is seen in illustration 9, page 34, of the People's Church of the Nazarene.

B. Nature and Condition

The second major item in determining the score given on "Site" is the item of "Nature and Condition." This is given a possible thirty



ILLUSTRATION 19. ENVIRONMENT OF FIRST CONGREGATIONAL CHURCH



ILLUSTRATION 20. BLANK WALL OF PARISH HOUSE, FIRST BAPTIST CHURCH. THIS PREVENTS ADEQUATE LIGHTING OF LARGE ROOMS



ILLUSTRATION 21. SIDE VIEW OF FIRST CONGREGATIONAL CHURCH SHOWING HOW ADJOINING BUILDING SHADOWS A CLASS ROOM

points of 130 allotted to site. This is considered under the two heads drainage and soil, and upkeep of site, each being responsible for fifteen of the thirty points. The topography of Malden affords many opportunities for the strategic locations of churches. The original buyers of some of the church sites apparently lacked the vision to avail themselves of such opportunities. The church structures themselves have in some instances had no strengthening contribution made to them from the site because of the original failure to consider sufficiently the element of elevation. A community building located on any ordinary residence site, such as the Maplewood Congregational, Maplewood Methodist, and Linden Congregational, has been handicapped from the beginning since it loses its outstanding character. Where lawns were in poor condition the deficiency seemed not due to faulty soil but to failure on the part of the church to set up its site as a model for the community. It is possible for a church to maintain its entire site at a high standard. The grounds of the First Baptist or the Faulkner and the Robinson Methodist churches, as seen in illustrations 1, 6 and 5, pages 18, 6 and 26, are evidences of this fact. The grounds of the Mystic Side Congregational with its overgrowth of weeds and refuse dumps, of the Maplewood Congregational, and Maplewood Baptist, illustrate the undesirable situation with respect to condition and upkeep of site.

C. Size and Form

The third major item in determining the score on "Site" is the "size and form" which is given forty-five of the possible 130 points. The situation in Malden is noticeably deficient in the size and form of the various church sites. The scores given range from five points to thirty out of a possible forty-five. In no case is the site large enough to provide playgrounds, tennis courts, a baseball ground or space for other athletic facilities. The site of the Mystic Side Congregational Church presents the best opportunities for such activities and is desirable in form except that it is too steep and rocky to be of much use for outside activities without much expense.

It is literally true that in most of the sites there is ground enough for the church building to rest upon and no more. One disadvantage of the extremely small site is that it is so inconspicuous that it is not counted as a real part of the church equipment and is therefore very commonly neglected. This was evidenced by the lack of care given to the small areas of ground in front and at the sides of the church. The psychological appeal of a clean, well-kept lawn, of sharp corners broken by artistically placed bushes or well-kept flowers, in other words, of an attractive site, is a factor that no church can afford to



ILLUSTRATION 22. PARISH HOUSE, FIRST BAPTIST CHURCH, WHERE MALDEN PROVIDES ITS BEST PHYSICAL PLANT FOR RELIGIOUS EDUCATION. HOME OF COMMUNITY SCHOOL OF RELIGIOUS EDUCATION

neglect. Many teachers of religious education count it desirable to hold classes out of doors at times; to have small parties, fetes or pageants on a spacious lawn with shrubbery or a vine-covered wall for a background; and to have groups of children on the playground. In this way these activities are definitely associated with the church, and a larger community interest is sure to be developed. Practically none of the sites in Malden is large enough to permit any of these activities, yet this represents a part of the physical equipment of a church which holds much promise for community service.

Perhaps the most outstanding result of the effect of an inadequate site in a particular situation is that evident from study of illustration 22 and 20, pages 59 and 57. The religious school building of the First Baptist plant presents an attractive appearance from the church side. The site, however, is so small that it was considered necessary to build this structure with one side close to the neighboring property line. The building, on this side, has been given a blank wall, thereby detracting to a considerable degree from its beauty both within and without and from the advantages that accrue from good natural lighting of classrooms. A school building of this size requires a site sufficiently large for play and pageantry purposes.



ILLUSTRATION 23. THE POORLY PLANNED MAPLEWOOD CONGREGATIONAL CHURCH ON ILL-KEPT GROUNDS



ILLUSTRATION 24. UNATTRACTIVE AND INADEQUATE TEMPORARY HOUSING FOR ST. PAUL'S SUNDAY SCHOOL ATTENDANTS

CHAPTER III

Item II. Building or Buildings of the Seventeen Church and Religious Education Plants

UNDER the second major item of the score card the building is considered with respect to, (1) its placement on the site, (2) its gross structure and (3) its internal structure. Each of the sub-items is further divided as shown in the detail score card.

In Table V, page 62, the seventeen churches are listed in the order of their rank on the total score allotted on this item. Chart III, page 63, represents graphically the data shown in Table V. In both table and chart the total score is subdivided into its component parts under A, B and C. Both the total score on the major item and the scores on the sub-items are shown in comparison with the maximum possible scores indicated in black faced type at the top and bottom of the table. The lower charts show the upper chart divided according to the major subdivisions of the item—Buildings.

In this item of building or buildings it is noticeable that there is a wide range represented by the seventeen buildings. The First Baptist is allotted 131 points out of a possible 150 while the other churches are rather evenly distributed between that score and the 44 points scored by the very inadequate building of the Union Baptist. It will be more helpful and also more significant to analyze these scores into the three main items which determine the total score for the building. These items will show why in several cases churches with good looking exteriors receive lower scores than they apparently should. Very poor internal structures, inadequate or dangerous stairways, unused or poorly kept basements, or buildings made of non-fireproof material will not only explain the score given, but will direct attention to conditions which should be remedied.
The three items determining the score for Buildings are: A, Placement; B, Gross Structure; and C, Internal Structure.

A. Placement

The score for placement is determined by the two items of location on site and orientation. The scores given for this item are consistently high for the churches in Malden. Many of them are placed in the only position possible on the site. Many of the churches have sites so small that the building covers all of it and there is no choice

TABLE V

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item II—Buildings

Showing distributed scores on the major subdivision of this item as compared with the total possible score for each subdivision.

CHURCHES SCORED	Rank on Basis of Scores Allotted on Item II	Maximum Possible Score and Allotted Scores	SUB-ITEMS Maximum Possible Score and Allotted Scores		
			A Placement	B Gross Structure	C Internal Structure
		150	**25**	**75**	**50**
First Baptist Church	1	131	25	68	38
First Parish in Malden, Universalist	2	110	22	59	29
Faulkner Methodist	3	99	25	55	19
St. Paul's Episcopal	4	94	24	48	22
Linden Methodist	5	93	25	44	24
Centre Methodist	6	86	18	46	22
Robinson Methodist	7	82	20	44	18
Eastern Avenue Baptist	8	80	25	34	21
People's Church of the Nazarene	9	79	25	36	18
Maplewood Methodist	10½	71	22	33	16
Linden Congregational	10½	71	23	37	11
Mystic Side Congregational	12	70	20	33	17
Maplewood Congregational	13	64	23	24	17
St. Luke's Episcopal	14	63	21	30	12
First Congregational	15	59	17	28	14
Maplewood Baptist	16	56	13	29	14
Union Baptist	17	44	15	22	7
Maximum Possible Score		**150**	**25**	**75**	**50**

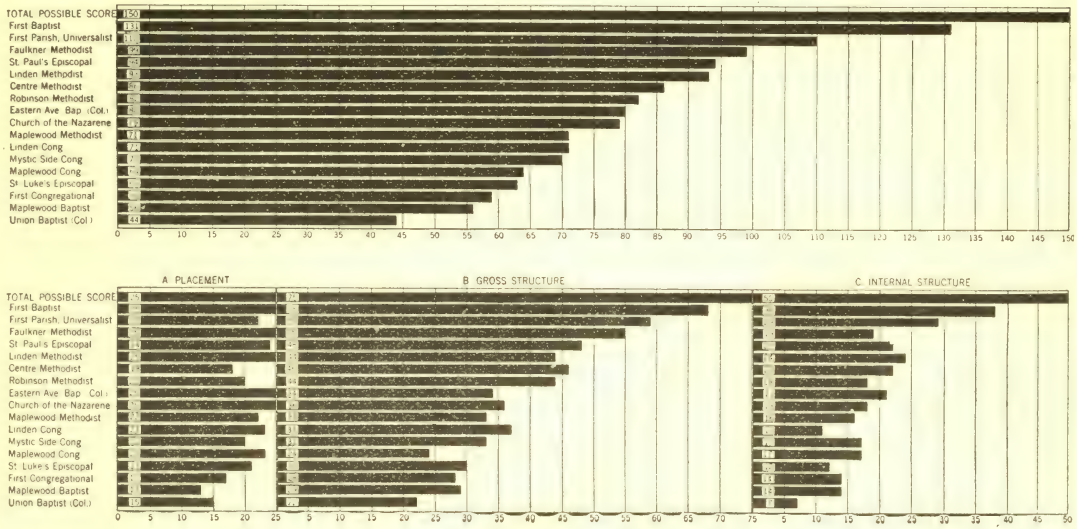
NOTE—Read: 131 points are allotted the First Baptist Church out of a possible 150 on the item of building, 25 points out of a possible 25 on placement, etc

CHART III—BUILDINGS

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM II - BUILDING OR BUILDINGS

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM- BUILDING OR BUILDINGS



of location. Where any freedom was possible the buildings have been located so as to secure the best effects. The space left at the back of the First Parish in Malden, Universalist, and the Mystic Side Congregational provides for a maximum use of the church lot. In St. Paul's Episcopal, illustration 4, page 24, Faulkner Methodist, illustration 6, page 28, Robinson Methodist, illustration 5, page 26, and the First Congregational, illustration 10, page 36, the buildings are so placed as to allow space for small lawns and shrubbery which materially improve the general appearance of the buildings. Almost no attention was given to the matter of orientation as it affects the natural lighting of the building. This will become a much more important problem as the service of the church is extended and it becomes desirable for students to study in the buildings or use a reference library. Especially on corner lots it is possible so to turn the building that the rooms most frequently used will not receive the direct intense light of the morning or afternoon. This is well done in the People's Church of the Nazarene, illustration 9, page 34.

B. Gross Structure

"Gross Structure" embodies the factors of type, material, height, roof, foundations, walls, entrances, esthetic balance and condition. The detail standards for these sub-items are given on pages 168 to 170. Examination of Table V, page 62, and the chart following, reveals a wide variation in score on "Gross Structure." The First Baptist Church ranks highest with 68 points out of a possible 75 as against the Union Baptist, lowest, with a score of 22 out of the same possible maximum. The score on the Union Baptist means little more than that there are walls, a foundation, a roof and entrances. The fact that ten of the seventeen churches, almost 60 per cent. scored less than half of the maximum possible score on this item is accounted for by there being such a large number of old frame structures built without due consideration to the problems of religious education—the school plant. In a number of instances the low scores are due in large part to the fact that the church plant is made up of new and old parts, the latter tending to pull the scores down below what apparently they should be. This is especially true of St. Paul's Episcopal church. The old frame building is extremely poorly conceived and is only a makeshift as an educational plant. It is understood that plans are now under consideration whereby the old frame part will be replaced by a building in keeping with the main auditorium. On the completion of such replacement the total score would be substantially raised.



ILLUSTRATION 25. ONE OF TWO MAIN STAIRWAYS FROM THE LARGE AUDITORIUM OF THE CENTRE METHODIST CHURCH



ILLUSTRATION 26. A WOODEN STAIRWAY OF QUESTIONABLE VALUE IN TIME OF DANGER. CENTRE METHODIST CHURCH



ILLUSTRATION 27. DANGEROUS WINDING STAIRS FOR PRIMARY CHILDREN. ST. PAUL'S EPISCOPAL CHURCH



ILLUSTRATION 28. A PROBABLE DEATH TRAP IN CASE OF FIRE. MAPLEWOOD BAPTIST CHURCH

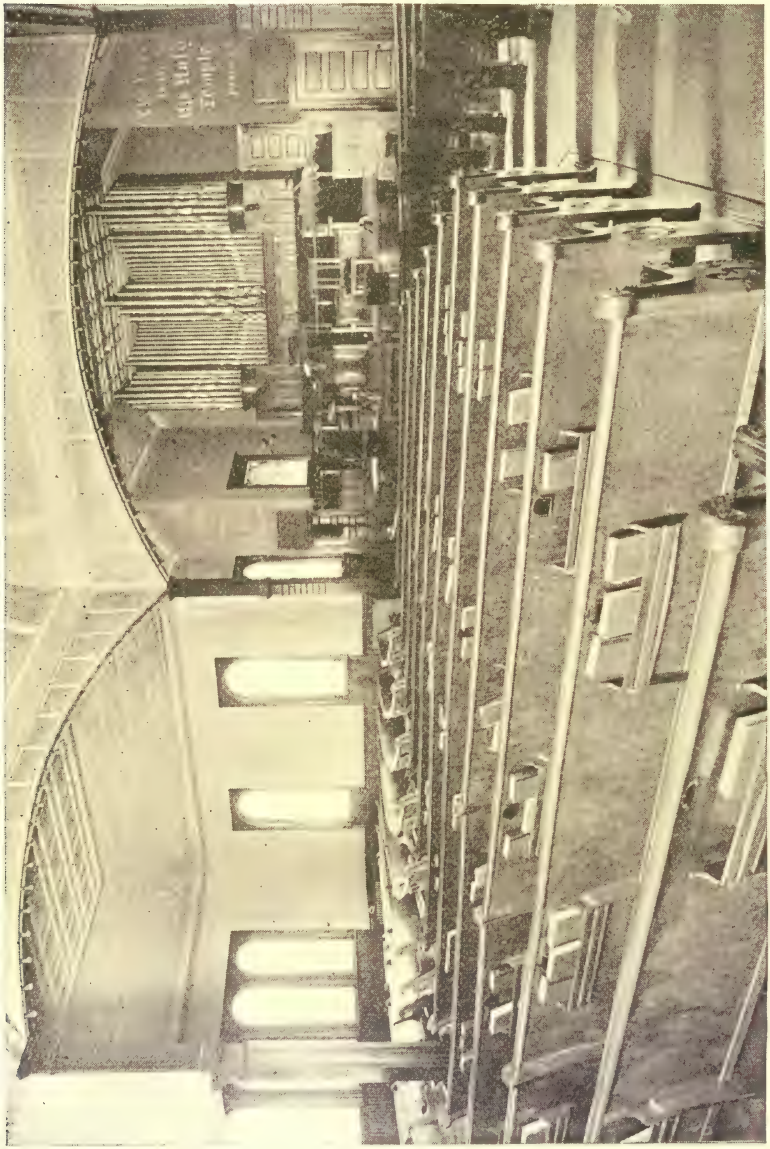


ILLUSTRATION 29 THE SECOND STORY AUDITORIUM, ROBINSON METHODIST CHURCH, THE ONLY EXIT FROM WHICH APPEARS IN ILLUSTRATION 31



ILLUSTRATION 30. THE FIFTEEN TREAD STEEP FRONT STAIRWAY OF THE ROBINSON METHODIST CHURCH



ILLUSTRATION 31. BY ADDING THIS STAIRWAY TO THAT OF ILLUSTRATION 30 ONE MAY VISUALIZE THE ONLY APPROACH TO THE ROBINSON METHODIST AUDITORIUM

Types of Buildings

A scale of building types may be easily arranged, on reference to the detailed standards, by placing the exteriors in the following order, beginning with the low end of the scale.

The Union Baptist	illustration	17,	page	50
St. Luke's	"	16	"	48
Maplewood Baptist	"	12	"	40
People's Church of the Nazarene	"	9	"	34
Mystic Side Congregational	"	8	"	32
Centre Methodist	"	2	"	20
Faulkner	"	6	"	28
First Parish in Malden, Universalist	"	3	"	22
First Baptist	"	1	"	18

The standard set for height of the buildings of a church and religious education plant is two stories except in very congested cities. This standard is not met in the three structures, the Centre Methodist plant, illustration 2, page 20, the First Baptist School plant, illustration 1, page 18, and St. Paul's annex, illustration 24, page 60.

The standards for entrances to public and semi-public buildings should be fully as rigid as are set up in the detailed standards on page 69. Little adherence to these standards is found in many of the seventeen plants. Some of the important standards suggest that "the main entrance should be not less than 10 feet to 12 feet wide and should open directly into the main foyer; that there should be as few steps as possible and that these should be non-exposed; that the steps be made of stone or concrete with a non-slipping surface; that doors be provided with panic bolts to permit ease of opening for all types of people"; and the like. Reference to the illustrations will show some of the striking features of the entrances of the seventeen plants.

Illustration 30, page 67, shows the main entrance to the Robinson Methodist. Illustration 31 shows the immediate interior of building at the top of this outer entrance. The exterior stairway is steep and has fifteen treads. The descent is particularly dangerous for elderly people.

Illustration 16, page 48, shows two stairways of St. Luke's building. No handrail protection is afforded on the stairway to the left. The stairs are wood and exposed to the weather.

Illustration 8, page 32, shows the totally unprotected main entrance of the Mystic Side church.

Illustration 17, page 50, shows a second ill-advised stairway of the Robinson Methodist type.

Illustration 4, page 24, shows a most satisfactory entrance with stairways eliminated.

Illustration 6, page 28, shows how the location of the building on a steep incline has presented difficulties in providing a proper entrance approach.

Other main entrance stairways to which high scores were allotted, are those of the First Congregational, the Centre Methodist and the First Baptist plants. The tendency towards inadequate size of subsidiary entrances is marked in the seventeen plants.

C. Internal Structure

"Internal Structure" takes into account: (1) stairways; (2) corridors and foyer; (3) basement; (4) color scheme; (5) decorative attractiveness. The detail standards for these sub-items are given on pages 170 to 172. Column "C" of Table V, page 62, shows the comparative scores with respect to the internal structure of the seventeen plants. The range is indicated by the score of the First Baptist of 38 points out of a possible 50 as against that of the Union Baptist with a score of 7 points out of the same possible maximum. From Table III it appears that only two churches in the city scored above 50 per cent. of the possible score on this item. This is to be explained by the fact that all sub-items have either been inadequately treated or neglected entirely. In no church in the city, for example, do the stairways approach the standards established to a degree that would justify allowing them more than one-half of the maximum number of points. Thirteen of the churches scored three points or less out of a possible ten on this item. The justification for such scores may be seen in studying the illustrations listed here. These illustrations point out the typical situations with respect to stairways in the Malden plants. It will be readily seen that they do not conform to the standards of fireproofness nor are they fire-enclosed so as to assure safe exit in case of fire or panic. The winding stairways requiring the use of triangular treads are very dangerous and cannot be too severely condemned. Stairways should not be of greater width than is necessary for the passage of two columns of people abreast, each being within reach of a handrail. Room in the center for a third column places one-third of the group out of reach of a handrail and in cases of panic or hurried exit it frequently causes serious accidents or catastrophes. Stairways more than 5 feet in width should be made 8 to 10 feet with a securely fastened handrail running down the center.

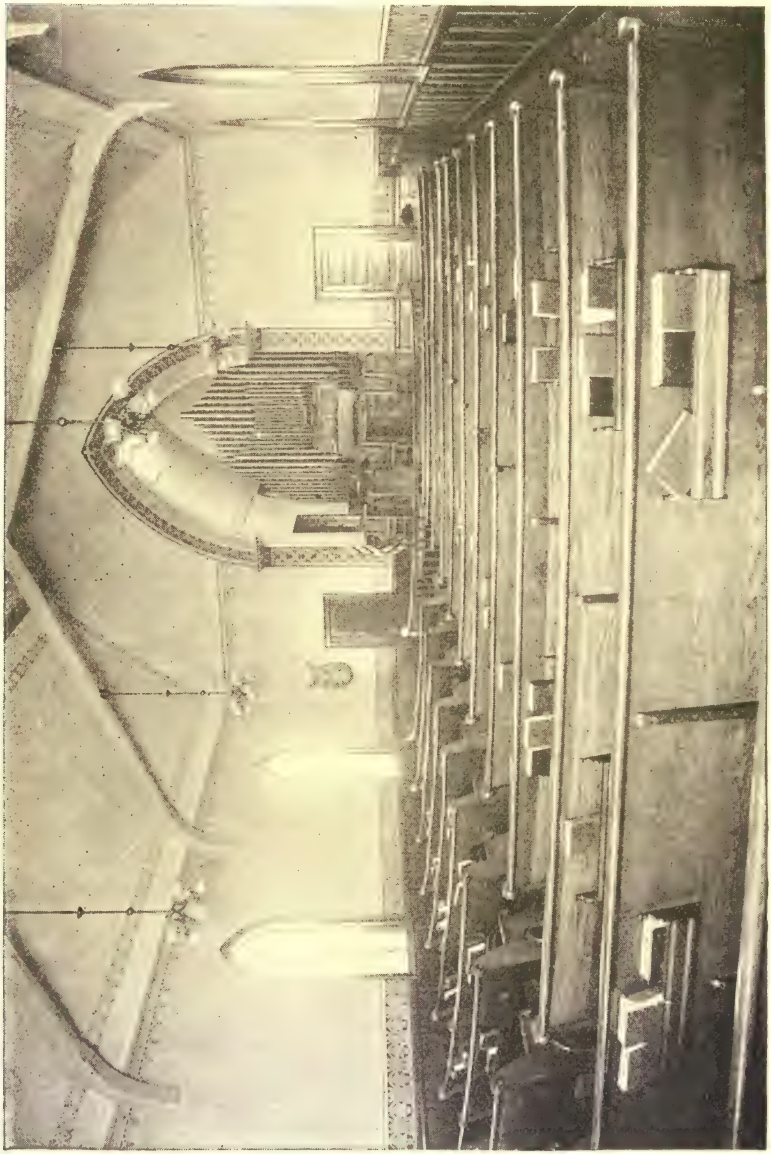


ILLUSTRATION 32. THE SECOND STORY AUDITORIUM, MAPLEWOOD METHODIST CHURCH, THE CHIEF EXIT FROM WHICH IS SHOWN IN ILLUSTRATION 34. A SECOND NARROW STAIRWAY, WHICH IS ALMOST UNUSABLE, IS AT THE RIGHT OF THE ORGAN



ILLUSTRATION 33. ONE OF TWO VERY POORLY CONCEIVED STAIRWAYS TO THE MAIN AUDITORIUM OF THE LINDEN CONGREGATIONAL CHURCH



ILLUSTRATION 34. THE UNPROTECTED FRONT STAIRWAY LEADING FROM THE AUDITORIUM SHOWN ON OPPOSITE PAGE



ILLUSTRATION 35. SHOWING THE IMPROPERLY PLANNED EXIT, THE UNSATISFACTORY SEATING ARRANGEMENTS, POOR LIGHTING AND INADEQUATE FURNISHINGS OF THE FIRST FLOOR SUNDAY SCHOOL ASSEMBLY ROOM OF THE LINDEN CONGREGATIONAL CHURCH

Illustrations of Interior Stairways

Illustration 31, page 67, shows the interior stairway at the top of the fifteen-tread stairway in the Robinson Methodist plant. This stairway is the main exit for the large auditorium shown in illustration 29, page 66. The congregation assembled in this auditorium is required to use these stairways, which are of wood, steep in nature and too wide for safety.

Illustration 33, page 71, presents the highly unsatisfactory stairways of the Linden Congregational Church. Each of two stairways to the auditorium on the second floor is so narrow as to be easily congested and has three flights, with two turns. At the foot of the bottom flight, the passageway is partially blocked by the guards to the stairway entrance of the school assembly room on the first floor. Illustration 35, page 72, shows this entrance into the assembly room with the main entrance doors beyond. Since the auxiliary stairway to the rear of this building is entirely inadequate, it is difficult to conceive of a situation which presents greater hazards.

Illustrations 70 and 55, pages 132 and 100, show the kindergarten and primary rooms of the Centre Methodist which are located on the second floor. The standards suggest their location on the first floor and their provision with outside exits. The stairway of illustration 26, page 65, presents many difficulties to the egress of large groups of young children, especially when, in case of danger, these stairways are also being used by older boys and girls.

Illustrations 25 and 26, page 65 show two of the three main stairway exits for the large Centre Methodist auditorium. The front stairways are not provided with adequate natural light. These stairways are not well conceived for the passage of large groups from the auditorium and balcony floors. The rear stairway requires an additional turn at the bottom before the exit doors can be reached. This makes a total of four turns which must be made by a group descending from the second floor to the side entrance. The standard that no storerooms be placed under the stairways unless fireproof is violated in the case of these two stairways.

Illustration 34, page 71, reproduces the single main stairway which is used for exit from the auditorium of the Maplewood Methodist Church (see illustration 32, page 70). The secondary stairway to the rear of this auditorium is not superior to the type shown in illustration 36, page 74. This main stairway is of wood, lacks handrails has three turns and is inadequately provided with artificial light.



ILLUSTRATION 36. SEE TEXT ON THIS PAGE

Illustration 36, on this page, shows the only stairway leading from the church auditorium floor to the large assembly room of the basement of the Faulkner Methodist. This stairway is steep, lacks a handrail and has the faulty triangular treads.

Illustrations 27 and 28, page 65, of stairways, Maplewood Baptist and St. Paul's plants respectively, are other types of stairways to be found in the seventeen plants. The first stairway is narrow, without handrails and artificial light, doubles back on itself and is located directly over a stairway leading to the littered cellar of illustration 43, page 80. The second stairway is a winder of a very bad type, and lacks handrails and sufficient artificial light It leads to a classroom where



ILLUSTRATION 37. SHOWING THE APPROACH FROM CHURCH AUDITORIUM TO THE SCHOOL ASSEMBLY ROOM OF THE FIRST CONGREGATIONAL CHURCH

very young children are taught and is undesirable for this reason.

The two winding stairways of the First Congregational Church, of which one is shown in illustration 37, page 74, are very defective types of communication between the two main floors of a church structure.

Interior stairways which most adequately conform to the standards are the fireproof stairs to be found in the First Baptist Church.

Foyers and Corridors

Corridors should be so located as to provide easy access to every room without passing through any other room. They should be wide enough to permit two lines to pass. With the exception of the First Baptist and St. Paul's Episcopal, the churches of Malden have made very inadequate provision for convenient corridors. None of them are constructed entirely of fireproof material. In practically all of the churches the corridors are so inadequate that it is necessary to pass through classrooms in order to get to other classrooms, a situation not only annoying and distracting but dangerous in an emergency.

The church foyer should be so located that it serves as the distributing center of the building. In order to do this it must be centrally located and be connected with all main corridors. In order to serve this function the foyer must be large enough to prevent congestion should two or three lines empty into it at the same time. It should be spacious enough to permit the "exchange of greetings" between individuals or families which takes place after most of the church gatherings. It is also the place of "first impressions," so it should be as attractive as possible and in a way indicative of the remainder of the building. The inadequacy of some of the church foyers can be appreciated by referring to illustrations 31, 33, 34, 35. Illustration 34, page 71, shows part of the small, plain foyer of the Maplewood Methodist with its turning, inadequate stairway. Illustration 39, page 76, shows the small hallway in St. Luke's. It opens directly into the large religious school auditorium on one side and into the pastor's study and choir room on the other. The inadequacy of this can be better realized by consulting illustration 38, page 76. Illustration 33, page 71, shows the small foyer of the Linden Congregational. The walls are in good condition but the arrangement of the stairways and entrances is very inconvenient. Illustration 31, page 67. shows the stair platform which is the distributing center of the Robinson Methodist Church. From the standpoint of convenience and tendency to prevent congestion, the corridors and foyers of the new

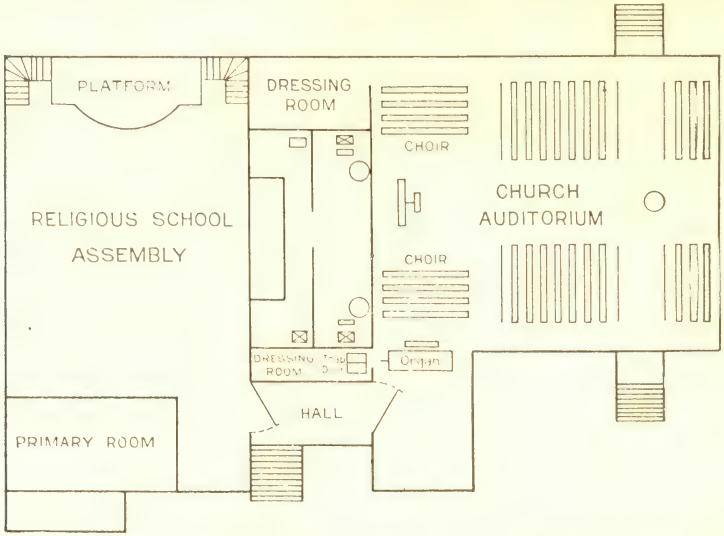


ILLUSTRATION 38. SHOWING INCONVENIENT ARRANGEMENT OF ROOMS AND DIFFICULTY OF PASSING AROUND ORGAN TO GET FROM SCHOOL ROOMS TO AUDITORIUM OF ST. LUKE'S EPISCOPAL CHURCH



ILLUSTRATION 39. INADEQUATE FOYER AND CONNECTION BETWEEN RELIGIOUS EDUCATION ROOM AND AUDITORIUM IN ST. LUKE'S EPISCOPAL CHURCH



ILLUSTRATION 40. A PRIMARY CLASS ROOM, MAPLEWOOD CONGREGATIONAL CHURCH WITH INADEQUATE NATURAL AND ARTIFICIAL LIGHT. PICTURES TOO HIGH. EQUIPMENT MEAGER AND UNATTRACTIVE

structure of St. Paul's and the First Baptist may be ranked highest. Illustration 40, page 77, is a good example of what difficulties are encountered when corridors are not made a part of the building construction. Through this classroom in the basement of the Maplewood Congregational plant, people must pass in order to go from the school assembly room to the church auditorium above and vice versa. It means that a classroom teacher is frequently interrupted and that the value of class instruction is thereby lessened.

The corridors of the school plant of the First Parish in Malden, Universalist, are not well conceived from the standpoint of the needed connection between assembly room and classrooms. One-way corridors similar to these (see illustration 69, page 131), and to those of the school plant of the Centre Methodist, increase congestion and decrease safety.

Basements

To the item basement, an allotment of ten points is made for standard conditions. Only one plant, the First Baptist, was allotted a score as high as seven points out of the possible ten, while eleven scored



ILLUSTRATION 41. THE CLEAN, WELL-KEPT, AND SIMPLY EQUIPPED KITCHEN OF THE LINDEN METHODIST CHURCH



ILLUSTRATION 42. THE SUNDAY SCHOOL ROOM, LINDEN METHODIST CHURCH. COMPOSITION BOARD WALLS, CEMENT FLOOR, THE SECONDARY HEATING SCHEME AND THE POOR NATURAL LIGHTING CAUSE THIS BASEMENT ROOM TO RATE LOW



ILLUSTRATION 43. THIS BASEMENT IN THE MAPLEWOOD BAPTIST CHURCH PRESENTS MANY FIRE HAZARDS WHICH SHOULD NOT BE TOLERATED IN ANY PUBLIC BUILDING

two points or less out of the possible ten. The standards require that no part of a basement be more than three feet below grade for rooms which are used for social and educational purposes. This standard is being met in all high grade public school building construction. It has been found most uneconomical to build such buildings, merely utilizing the basement for the heating and ventilating equipment which can be accommodated in at least a quarter of that space. In Malden, where the basements are being used for social or educational purposes they have been sunk so low that these rooms are deprived to a large degree of natural light. This is not true of buildings like the Mystic Side, Maplewood Congregational and First Congregational which stand on ground sloping away from the front of the building, thus permitting full lighting of the semi-basement. The best natural lighting of rooms which may be listed as basement rooms, may be seen in the kitchen and social room in the First Parish in Malden, Universalist. It is evident from this situation that the standards set are not too high and may be reached in future church building construction in Malden. Evidences of inadequate natural lighting of basement rooms may be seen in the central play room or Boy Scout room, the dining room, illustration 58, page 107, and the kitchen, illustration 83, page 159, of the First Baptist Church. It would seem to be just as desirable to provide play rooms, dining rooms and kitchens with sunshine, air and light as any of the other rooms in a church plant. In the Parish House of the First Baptist plant the natural lighting is better than in the church structure, though since all light is cut off from one long-axis side, the possibilities for natural lighting have not been reached in this case.

Where basements are being used for heating and storage purposes only, the condition in many cases was such as to warrant very low scores. It is difficult to conceive why a church basement should be neglected to the point where it becomes a constant menace to the safety and health of the occupants of the building. Yet this condition is reached to a deplorable degree in some instances. The sites on which the Malden churches stand have been shown to be exceedingly small. The area covered by a basement should therefore be utilized to a maximum degree for actual church service and not be left merely for accumulation of ashes, rubbish, the waste from church festivals and the discarded furniture of past decades. It is to be hoped that the decay and neglect to be found in some instances were not evidences of the beginning of a condition which might be expected to involve the entire structure.

Illustration 18, page 51, shows the basement of the Union Baptist Church. The basement is utilized to the fullest extent. It is so

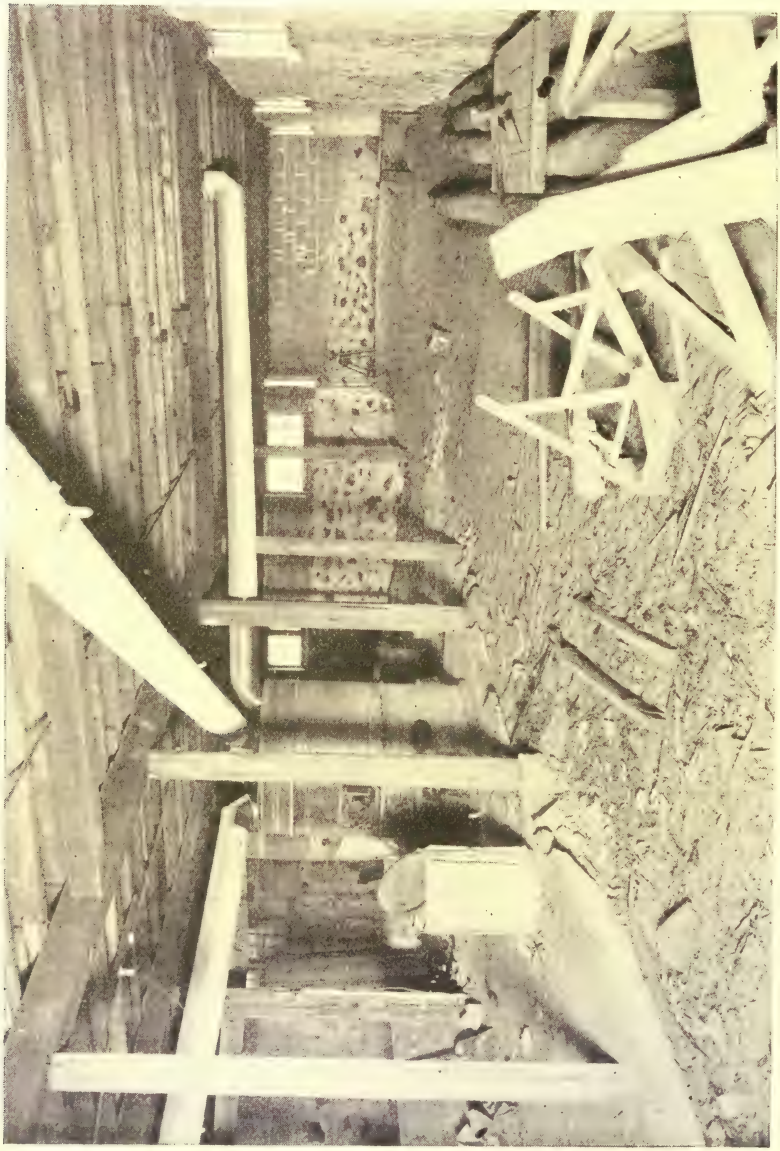


ILLUSTRATION 44. THE BASEMENT IN ST. LUKE'S EPISCOPAL CHURCH, THE LIGHTING AND ARRANGEMENT OF WHICH SHOULD HAVE BEEN PLANNED FOR PLAY AND RECREATION FOR CHILDREN

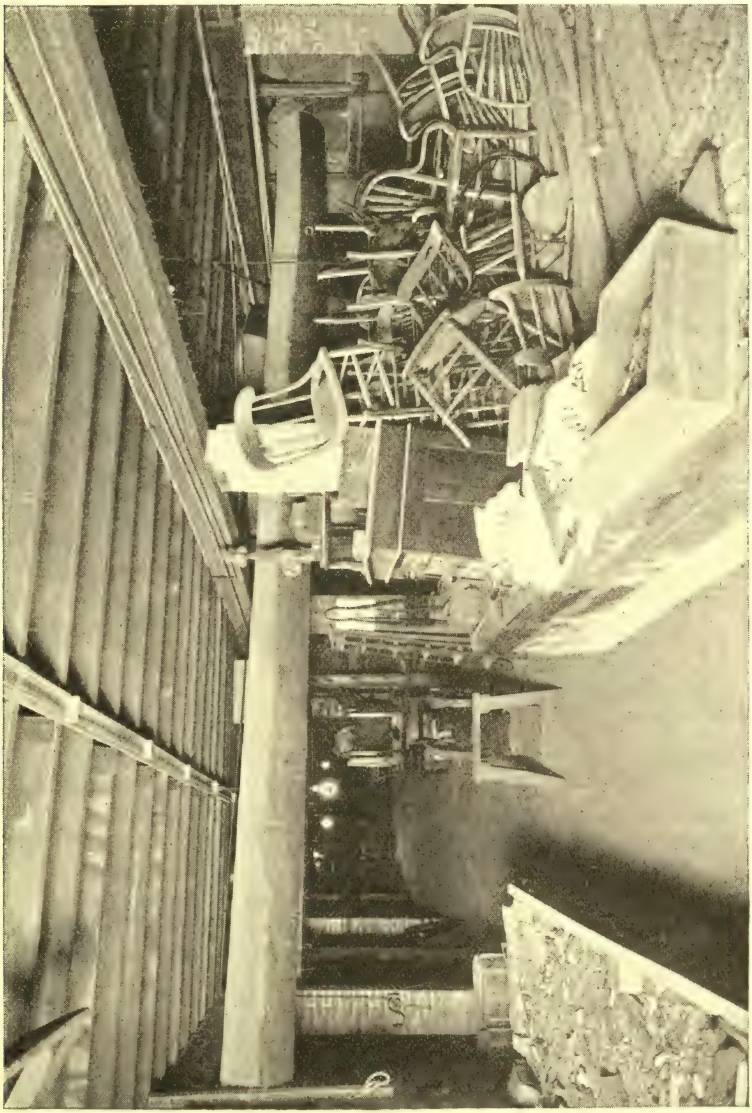


ILLUSTRATION 45. THE BASEMENT OF THE FIRST CONGREGATIONAL CHURCH. NOTE THE DEFECTIVE WIRING, JOINTS UNPROTECTED FROM THE DUCTS AND HEATERS, ONE OF THE FIVE HEATERS LOCATED IN THIS CONGESTED BASEMENT IS SEEN AT THE RIGHT



ILLUSTRATION 46. THE ATTRACTIVE, WELL FURNISHED AND TASTEFULLY DECORATED PARLOR OF THE FIRST BAPTIST CHURCH

placed that all necessary natural light could have been provided. A very small proportion of the possible maximum light has been available during the years this building has been used.

Illustrations 41 and 42, pages 78 and 79, show the basement assembly and kitchen of the Linden Methodist plant. This basement is completely utilized and extremely well maintained. The natural lighting is above the average of the seventeen plants. The concrete floor in this low basement is an undesirable feature.

Illustration 43, page 80, is the basement of the Maplewood Baptist plant. This basement typifies every conceivable hazard from fire to contagion. Note the exposed wiring; the heating flues in contact with the floor joists; the accumulation of filth and rubbish in the foreground and the age-old ash dump at the rear.

Illustration 44, page 82, shows the basement of St. Luke's. The natural lighting is fair. The basement is not planned with respect to any use which might be made of it. As it stands it is a waste of valuable space. The picture shows a considerable degree of dirt, disorder, poor construction and a maximum of fire risk. All electric

wiring is exposed and the floor joists are unprotected from the heating flues. The construction and support is primitive and inadequate.

Illustration 45, page 83, shows part of the basement of the First Congregational plant. Exposed wiring, joists unprotected from the heating plants, discarded and broken furniture, and other accumulations are characteristics of this basement. Because of its low construction, it is exceedingly difficult to maintain in an orderly fashion.

Illustration 58, page 107, shows one part of the basement of the First Baptist plant. This basement, though by no means standard, illustrates the use to which basement space can be put and the type of service it can best render. It is fireproof in construction, provided with an outside exit and well lighted by an indirect artificial system. The most serious fault is the excessive depth of the floor below ground level and the consequent lack of adequate natural lighting.

Decorative Attractiveness

The decorative attractiveness of the interior of a church exerts a powerful though subtle influence upon the people who worship in it. The interior of the church should be clean and bright, freshly decorated in colors which are restful and harmonious and which tend to give the effect of simplicity and genuineness. Such decoration will invariably result in a more worshipful attitude on the part of the persons entering and in a fuller enjoyment of the time spent in the building.

Several of the churches have realized the importance of this influence and have given care to seeing that all their rooms and corridors are artistically decorated, and that a consistent scheme is followed throughout the entire building. The churches which have most noticeably cared for this item are the First Baptist, the Linden Methodist, the Eastern Avenue Baptist, the First Parish in Malden, Universalist, and the Centre Methodist. Others of the churches have realized the desirability of attractive interior decoration but have confined their efforts largely to the church auditorium, and have neglected this element in their religious education rooms —the rooms where the standards of impressionable children are being formed.

CHAPTER IV

Item III. Service Systems

IT WILL be noted by reference to the score card that under the item of "Service Systems" there are included the eight elements of—

A. Heating and Ventilating
B. Fire Protection
C. Cleaning System
D. Artificial Lighting
E. Toilet System
F. Water Supply System
G. Other Service Systems such as clocks, telephones, bells, etc.
H. Service Rooms, such as janitor's rooms, janitor's workshop and fuel room

A careful analysis of the service facilities required in a church plant will disclose that these eight divisions include all the service systems which might be deemed requisite in such an institution. For each of these eight types of service systems standards have been erected. These standards suggest the most desirable situations and conditions.

To each of these eight divisions under the heading "Service Systems" scores have been allotted by the judges with the maximum score possible in each case representing the ideal situation. The sum of the scores for the eight subdivisions has in the case of each church become the final score for that church on the item "Service Systems."

In Table VI, the churches of Malden have been ranked according to the scores thus obtained for "Service Systems." The "Service System" score is compared (for each church) with the total possible score on Item III, namely 160 points. For the purpose of studying any single situation, one will also find in this table the scores allotted by the judges on each of the eight subdivisions of service systems. The maximum scores obtainable for each of these subdivisions are also given to make comparison easy.

In Chart IV, the scores of Table VI are shown graphically.

On this item, "Service Systems," it will be seen that the First Baptist Church ranks first with a score of 135 points. This church is equipped with service facilities which far exceed those of any other church in

Malden. The judges have placed the Centre Methodist Church second on this item with a score of 81 points. The Union Baptist and the Maplewood Methodist churches with their meager allotments of 26 points present pitiful contrasts to the ideal situation represented by 160 points. Other churches scoring very low on this item such as St. Luke's Episcopal, Mystic Side Congregational and Linden Congregational may be considered as having minimum provision for the physical care and comfort of their attendants.

The church may be conceived as being in a large sense responsible for elevating the standards for American homes. Homes should be equipped with heating and ventilating systems which not only act positively by providing heat, but which at the same time do not act negatively by injuring the health of the occupants of the home or by producing conditions which result in increased possibilities of ill health. Adequate homes may be expected to provide a maximum of safety against fire dangers, to be equipped with modern toilet facilities and to furnish artificial light under conditions which increase home advantages. Homes from which people come to serve community interests and to develop community ideals should surround such people with ideal conditions of sanitation and cleanliness. Where homes fail to provide the advantages here enumerated, the church through the standards maintained in her own institutions may be expected to provide leadership in obtaining superior home conditions. It is not to be denied that continued participation in religious service under faulty heating and lighting conditions, in unclean and unsanitary surroundings or in the midst of facilities providing a maximum of physical discomfort, will result in a less desirable influence than might result if better conditions prevailed. There is every evidence in the scores allotted on the items heating and ventilation, toilet systems, artificial lighting, cleaning systems and the other service systems, that many of the seventeen Malden church and religious education plants have failed signally in accepting a very important responsibility. The church may be expected to provide model facilities in this field. Not only will such facilities attract larger groups but very desirable changes in home conditions may be expected to follow. The First Baptist Church made a very decided contribution to the development of the homes of the community of Malden when it provided service facilities which are satisfactory to such a high degree.

A. Heating and Ventilation

In judging this item the scorers considered six major items:

1. The kind of heating and ventilating systems which are being used.

TABLE VI

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item III—Service Systems

Showing distributed scores on the major subdivisions of this item as compared with the total possible score for each subdivision.

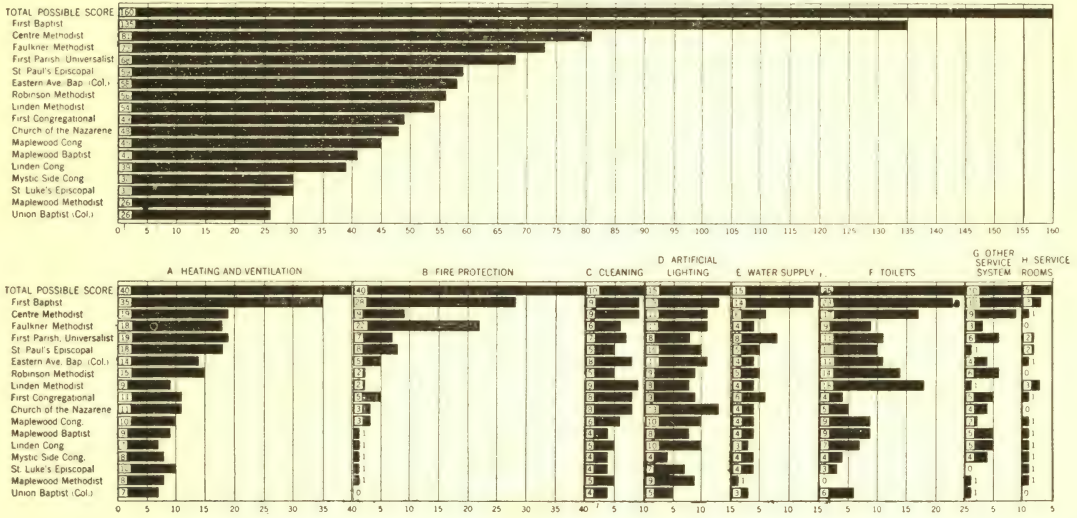
CHURCHES SCORED	Rank on Basis of Allotted Scores on This Item	Maximum Possible Score and Allotted Scores	SUB-ITEMS Maximum Possible Score and Allotted Score							
			A Heating and Ventilation	B Fire Protection	C Cleaning	D Artificial Lighting	E Water Supply	F Toilet System	G Other Service Systems	H Service Rooms
		160	40	40	10	15	15	25	10	5
First Baptist Church	1	135	35	28	9	13	11	23	10	3
Centre Methodist	2	81	19	9	9	11	6	17	9	1
Faulkner Methodist	3	73	18	22	6	11	4	9	3	0
First Parish in Malden, Universalist	4	68	19	7	7	8	8	11	6	2
St. Paul's Episcopal	5	59	18	8	5	10	5	10	1	2
Eastern Avenue Baptist	6	58	14	5	8	11	4	11	4	1
Robinson Methodist	7	56	15	2	5	9	5	14	6	0
Linden Methodist	8	54	9	2	9	8	4	18	1	3
First Congregational	9	49	11	5	8	9	6	4	5	1
People's Church of the Nazarene	10	48	11	3	8	13	4	5	4	0
Maplewood Congregational	11	45	10	3	6	10	4	9	2	1
Maplewood Baptist	12	41	9	1	4	8	4	9	5	1
Linden Congregational	13	39	7	1	5	10	3	7	5	1
Mystic Side Congregational	14½	30	8	1	4	4	4	4	4	1
St. Luke's Episcopal	14½	30	10	1	4	7	4	3	0	1
Maplewood Methodist	16½	26	8	1	5	9	1	0	1	1
Union Baptist	16½	26	7	0	4	5	3	6	1	0
Maximum Possible Score		**160**	**40**	**40**	**10**	**15**	**15**	**25**	**10**	**5**

Chart IV

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM III-SERVICE SYSTEMS

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM-SERVICE SYSTEMS



2. Their installation, including construction, piping, radiation, flues, ducts, etc.
3. The air supply, its source and the provisions for foul air exhaust.
4. Fans and motors installed for purpose of securing adequate ventilation.
5. The distribution of heat.
6. Temperature control.

Reference to the detailed standards, covering the item of heating and ventilation as given on pages 172 to 183, will show the desirable characteristics of a heating and ventilating plant. A few of the important standards will bear repetition here.

The direct-mechanical and indirect-mechanical systems of heating



ILLUSTRATION 47. AIR INTAKE OF THE UNIVERSALIST CHURCH, LOCATED AT GROUND LEVEL



ILLUSTRATION 48. AIR INTAKE OF THE FIRST CONGREGATIONAL CHURCH LOCATED AT GROUND LEVEL



ILLUSTRATION 49. GROUND LEVEL AIR INTAKE OF THE FIRST BAPTIST CHURCH. IT SEEMS UNWISE TO TAKE AIR FROM DUST COVERED WALKS EVEN THOUGH IT IS WASHED BEFORE BEING SENT INTO THE ROOMS ABOVE

and ventilation are considered most desirable for a church and religious education plant. The direct-mechanical is a system of direct heating with mechanical ventilation. It means that the heat is imparted directly to the room or rooms by means of radiator surfaces or heat sources located within the room heated. Steam and hot water radiators are classified under this heading. A mechanical system of ventilation is that system from which the required air movement is maintained by the use of blowers, fans or similar mechanically operated appliances. Indirect heating means that heat is imparted directly to the room by air initially warmed by radiating surfaces or heat sources located outside of the room heated and the warm air is conveyed therefrom to the room through suitable air ducts or flues. Hot air furnaces and standard steam and hot water indirect radiators are appliances classified under this heading.

The "furnace-gravity" system is much less desirable than the direct-mechanical above described. More than half of the church plants of this group are equipped with the "furnace-gravity" system. In only one case, viz., the First Baptist Church, is the direct heating system joined with an adequate system of mechanical ventilation. In all other cases, no system of ventilation other than the unsatisfactory so-called "natural" system has been provided. This "natural" system may be made satisfactory to a certain degree if properly



ILLUSTRATION 50. ONE OF THE UNPROTECTED FURNACES OF THE MYSTIC SIDE CONGREGATIONAL CHURCH FURNISHING A CONSTANT POSSIBILITY OF FIRE DANGER. THIS CONSTRUCTION SHOULD NEVER HAVE BEEN PERMITTED BY LAW

designed deflecting ventilators are installed at the windows. Such installation is totally lacking.

The heating facilities in some of the seventeen churches bore evidence of having been installed without plan or program. Some of the worst offenders in this respect are the First Congregational, the Mystic Side and the Maplewood Congregational. The battery of five furnaces installed in the Congregational and the two furnaces of some of the small churches demonstrate this fact. Where basements have not been planned for the adequate housing of the heating plant, as the picture of the First Congregational basement in illustration 45, page 83, indicates, the undesirability of the situation becomes quite clear. The multiplication of heating units is also highly undesirable from the standpoint of janitorial care, especially to the degree existing in the First Congregational.

Another standard for heating plants requires their enclosure in fireproof construction. This standard has been followed in only one instance. The fire risk resulting from the installation of one of the Mystic Side furnaces as shown in illustration 50, page 92, ought not to be assumed by any community group in the expenditure of their funds.

Heating standards require that the furnace in a "furnace-gravity" system be located below the room or rooms to be heated. This rule is violated in the Linden Congregational, Union Baptist and Mystic Side plants, much to the disfigurement and detriment of the rooms wherein the furnaces are located. The disadvantages of such location is clearly shown in illustrations 35, 18 and 50, pages 72, 51 and 92. Supplementary heating by means of a small gas stove, as shown in illustration 75, page 143, of the Falconer Methodist cannot be rated with a high score in the light of the standards which have been developed for this score card.

Heating engineers are agreed that a separate duct to each room to be heated is essential when such ducts are relied upon to convey heat from its source. Illustrations 41 and 42, pages 78 and 79, show how Malden Churches have failed to observe this rule. The Maplewood Methodist as shown in illustration 51, page 94, has a huge stack mounting directly from the furnace in the basement to the church auditorium on the second floor. The opening in this stack permits the heated air also to enter the assembly room on the first floor. According to physical law the heating of both rooms is hardly possible at the same time. That the Linden Methodist has attempted to violate the same physical law is shown in illustration 42, page 79.

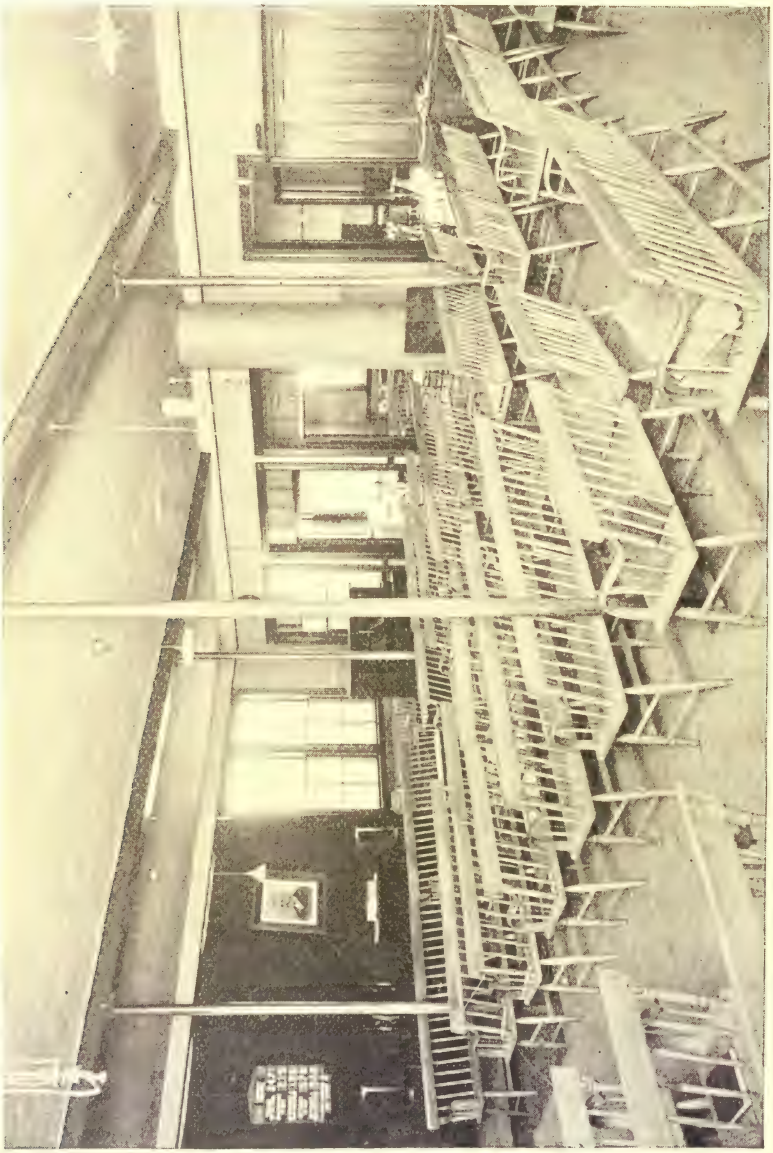


ILLUSTRATION 51. SHOWING THE SUNDAY SCHOOL ROOMS OF THE MAPLEWOOD METHODIST CHURCH. NOTE THE FLUE METHOD OF HEATING AT THE RIGHT CENTRE; THE INADEQUATE ARTIFICIAL LIGHTING AND THE UNDESIRABLE FURNITURE

Floor registers such as are shown in illustration 66, page 125, illustration 71, page 137, illustration 34, page 71, do not conform to standard requirements. Such registers are dirt and dust gatherers difficult to clean.

Some of the pictures of the First Baptist Church illustrate high-grade installation of radiators, piping, air intakes and outlets as follows: Illustration 59, page 108, shows properly insulated piping and well-located radiators for a basement room.

Illustration 52, page 95, shows the proper location of radiators under windows and adequately sized foul-air outlets protected with the proper grille. Illustration 46 shows a similar outlet.

Illustration 80, page 149, shows an air intake and an air outlet for a classroom, properly located, as well as the radiation provided for one of the smaller classrooms.

Illustration 58, page 107, shows insulated piping properly hung for a basement room.

There has been only slight conformance in the seventeen Malden churches to the standards involved in "Air Supply and Exhaust."

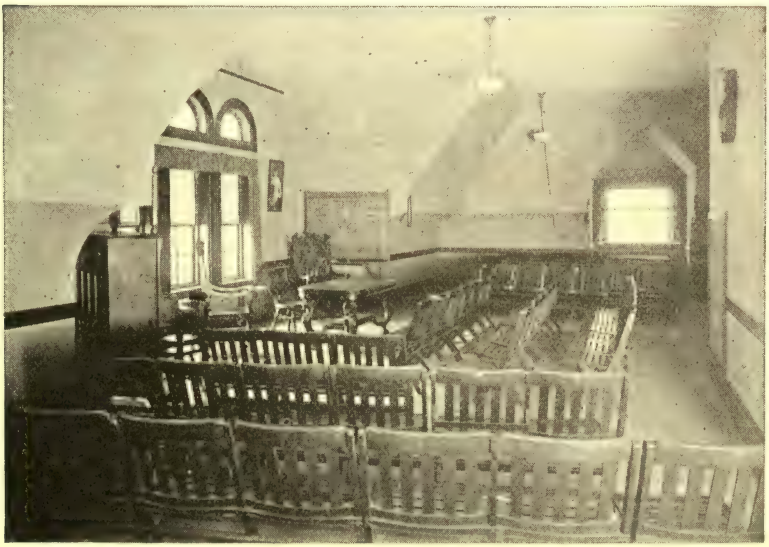


ILLUSTRATION 52. A CLASS ROOM IN THE FIRST BAPTIST CHURCH, THE PLAN OF WHICH WAS MADE SECONDARY TO THE PLANNING OF THE EXTERIOR

One of the most important standards under this heading concerns the source of fresh air supplied. The standards suggest the following: "The fresh air supply for ventilation should be taken from an uncontaminated source, preferably from above the roof, or at a point at least fifteen feet above the grade level. The air supplied should be free from dust and other impurities."

Illustrations 47, 48 and 49, pages 90 and 91, point out the prevailing arrangement for securing fresh air in the churches which have made provisions for fresh air supply. Such intakes, even though screened, cannot be as desirable as those located sufficiently high above ground level, and cannot prevent the entry of small dirt particles or dust and filth blown directly from sidewalk or alley. Air drawn from ground levels should be filtered or washed. All heated air should be properly humidified before entering large audience rooms. These provisions are expensive and yet are found possible in large plants. It should be borne in mind that a hot, dry air may be the cause of colds and sore throats for a surprisingly large proportion of an audience.

The control of temperatures through automatic thermostats is most desirable in buildings serving large groups of people. Such installation has been partially provided in the First Baptist plant.

B. Fire Protection

The history of fire disasters in buildings in the United States wherein large groups of people are housed from time to time has led to the establishment of rigid standards looking toward safety and the reduction of fire risks. Reference to Table V shows that fifteen of the seventeen churches have been allotted less than twenty-five per cent. of the possible maximum score on the item of fire protection. It clearly indicates that little attention has been paid this highly important element. The church fires, which Malden has already had, make it clear why full consideration should be given this problem.

Below are listed some of the elements wherein the seventeen churches fail to safeguard sufficiently the men, women and children invited within their doors.

a. Four "second-story" church auditoriums without adequate exits.
b. Entire lack of fire apparatus in many buildings.
c. Non-fireproof store rooms filled with combustible materials.
d. No fire escapes for non-fireproof buildings.
e. Heating apparatus installed without proper fireproofing.
f. Fire extinguishers not properly tagged to show dates of refilling.
g. Class rooms of small children located on upper floors.



ILLUSTRATION 53. AN ATTRACTIVE INTERIOR OF THE CENTRE METHODIST CHURCH. THIS SHOWS THE SECOND STORY AUDITORIUM FLOOR WITH PART OF ITS THIRD STORY BALCONY, WHERE ABOUT 1000 PEOPLE MAY BE SEATED. AUDITORIUMS, UNLESS IN STRICTLY FIREPROOF BUILDINGS, SHOULD BE AT GROUND LEVEL

h. Class rooms of large groups of children provided with insufficient exits.
i. Electric wiring installed contrary to National Fire Underwriters' regulations.
j. Basements littered with inflammable materials that should never have been allowed to accumulate.
k. Kindling and waste paper piled in immediate vicinity of heated furnace or boiler without regard for possible fire danger.

The desirable standard in construction is a building as highly fireproof or fire-resisting as possible. Where this construction has not been used, encased fireproof stair wells with stairways cut off from corridors with metal and fire-glass doors are essential. All large second story audience rooms should be provided with such fire exits whether the building is fireproof or not. It is difficult to conceive why Malden has erected four of its churches with their main auditoriums on the second floor. Illustration 32, page 70, shows one of these second story auditoriums, that of the Maplewood Methodist. The left door at the front of this auditorium leads to a narrow, poorly planned stairway and could be used by only a few persons in case of danger. The only stairway at the rear of the auditorium leading to the main entrance of the church is shown in illustration 34, page 71, This stairway is of none too substantial wooden construction, and without adequate handrails. The illustration shows the turns which must be made by any group using the stairway. No attempt has been made in this building to reduce the fire dangers of the basement arising from the location of a hot air furnace system of heating under wooden joist construction.

The "second story" auditorium of the Robinson Methodist presents nearly equal possibilities for disaster. The exterior view of the Robinson Methodist in illustration 5, shows the steep ascent from the ground level to the first floor. A second steep broad stairway without adequate handrails runs from the first floor as shown in illustration 31, page 67, to the floor of the auditorium shown in illustration 29, page 66. The extreme width of this church auditorium would add to the danger in case of fire. The careless storage of old shingles and other materials in such a manner as to increase the fire danger was noticed in this basement.

Approximately 1,000 people may be seated in the very attractive "second story" auditorium of the Centre Methodist plant, if the balcony and choir gallery are included. The two main and the chief secondary stairways do not permit of sufficiently ready egress for such a throng. Some of this number would be compelled to wait until eighty to one hundred other persons had passed out before they



ILLUSTRATION 54. EVIDENCE OF EXTREME DISREGARD OF FIRE DANGERS IN A STORE ROOM DIRECTLY UNDER THE RAFTERS OF THE MAPLEWOOD BAPTIST CHURCH. MUCH EASILY COMBUSTIBLE MATERIAL HAD BEEN TOSSED INTO THIS STORE ROOM



ILLUSTRATION 55. A LARGE SECOND FLOOR CLASS ROOM, CENTRE METHODIST CHURCH
SEE DESCRIPTION ON PAGE 102

could reach safety. It is unfortunate that this auditorium has been located as it is. The close proximity of other non-fireproof buildings, the non-fireproof nature of the Centre Methodist structure and the wooden construction of its stairways, as shown in illustrations 25 and 26, page 65, make further precautions for safety quite necessary. Other elements adding to the dangers are the store rooms, and other rooms under the stairways and the fact that the balcony with its seating capacity of 350 to 400 may be considered as being on the third floor.

From the viewpoint of "fire protection" the Linden Congregational "second story" auditorium has little to commend it. Located in a relatively thinly populated section, it should have been possible to have secured a large enough site for a one-story building instead of the present poorly conceived building. The secondary stairway in this building will supplement the main double stairway only slightly. Illustration 33, page 71, shows how poorly planned the latter stairways are.

Much of the construction in the seventeen church plants is not fireproof. Many of the standards under this item have, however, been followed in the reconstruction of the First Baptist plant. The fireproof stairways of the building are especially to be commended. No building to be used for public or semi-public purposes should be built of wood if the height is to exceed one story above the basement. This standard, highly necessary for safety, is violated in seven of the seventeen churches.

Illustrations 43, page 80, 28, page 65, and 54, page 99, confirm the necessity for this standard. These three pictures lead from a most disreputable basement with every possible fire danger lurking about, to the equally dangerous store room adjoining a class room and located under the partially concealed roof rafters. To be sure, conditions shown in these pictures ought not to be tolerated in any church. Fireproof construction would, on the other hand, ward off the possible results of such disregard for the safety of human beings.

In illustrations 45, page 83, and 57, page 105, may be seen the basement of the First Congregational Church with the large assembly room for its church school located on the floor directly above. It seems unfair to children to ask them to attend school in the large room below which such possibilities of fire danger exist as are to be found in this basement. The basement is congested with furniture, janitor's equipment, fire wood, waste paper and the multiplicity of hot-air furnaces which heat this building. The open electric wiring, the piles of paper, the uncovered warm air flues, the unprotected

joists over the furnace and the gas jets may be noted as possible sources of fire danger.

The disregard of fire dangers evidenced in the basements shown in illustrations 43, 44 and 45, pages 80, 82 and 83, was found to prevail in other church plants only in slightly less degree. In fact it seemed to be an outstanding feature of the plants taken as a whole. Types of heating installation involving a minimum of protection against fire hazards may be seen in illustrations 50, page 92, and 44, page 82.

No fire escapes have been provided for any of the seventeen churches. The need for such escapes has been pointed out with respect to the churches with "second story" auditoriums. The need is also clear in other instances. In illustration 55, page 100, may be seen a large section of the primary room on the second floor of Centre Methodist plant. This room has many attractive features, but its location on the second floor and its rather unsatisfactory approach detracts from its desirability. The door at the right center is the main exit and under certain conditions it seems that it may be the only exit. The door at the left rear is reported as usually being locked. When opened, no satisfactory outlet is furnished for children at this point. The doors in the center of the picture lead to the low room underneath the choir gallery, used as a cloak-room for the church school. The main exit is through a narrow corridor into which other class rooms empty and down the stairway of illustration 26, page 65, It must be borne in mind that other class rooms on the third floor use this same stairway, that the stairway narrows down at its middle section and that these children belong to the Primary Department. The loose chairs and tables of this room will also add to the difficulty of exit in case of danger.

The rooms on the third floor directly above the Primary Department are most inadequately provided with exits. Fire escapes for these rooms are most essential.

The wooden residential structure used by St. Paul's Church for instructional purposes also fails to safeguard its occupants to the degree possible and desirable. Such a three story structure without fire escapes suffices for residential purposes. The situation changes immediately when many groups of young people are housed therein.

Electric wire, in order to produce a maximum of safety should be laid in conduit. The faulty wiring to be observed in illustrations 43 and 45, page 80 and 83, is typical of the situation in the majority of the seventeen churches.

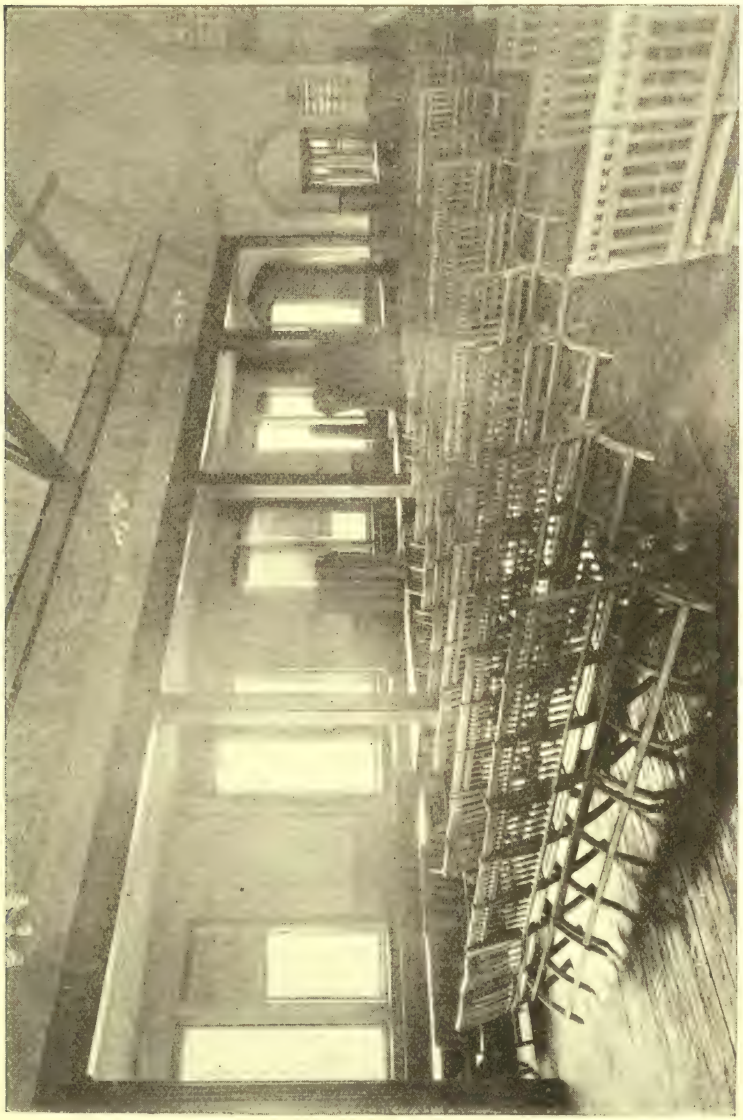


ILLUSTRATION 56. TEMPORARY SUNDAY SCHOOL ASSEMBLY ROOM OF ST. PAUL'S EPISCOPAL CHURCH. CURTAINS ON WIRES PROVIDE CLASSROOMS ABOUT EDGE OF ROOM. BAD CONDITION OF FLOOR, POOR KIND OF ARTIFICIAL LIGHTING AND INADEQUATE NATURAL LIGHTING SHOWN

C. Cleaning System

The preferable type of cleaning system is the stationary vacuum with permanent piping and discharge into a proper receptacle located in the basement. Such a system has been installed in the Centre Methodist plant and from the condition of the floors and walls seemed to be very satisfactory. The condition of the First Baptist Church, Linden Methodist, Eastern Avenue Baptist, First Congregational (with exception of basement) and People's Church of the Nazarene, placed them above the others as to cleanliness. The standards involve three elements, the kind of equipment, its installation, and efficiency as judged from the prevalence of dirt, dust, rubbish and the like. Church plants should be models of cleanliness and orderliness. The example set by the church may well be expected to transfer to the homes of the church. If the example set by a few of the seventeen churches of Malden were followed in any of the homes of those churches, the efficiency of the church might be seriously questioned. No church should fail to provide a maximum of cleaning apparatus and materials and should then assure itself that they are constantly applied.

D. Artificial Lighting

In institutions such as a church and religious education plant, the most desirable artificial illumination is a semi-indirect electricity system. Indirect lighting may also be employed with especially satisfactory results where the wall coloring permits of a maximum of reflection of light. Direct lighting is rarely acceptable since the source of light frequently lies in the line of vision and thereby causes eye-irritation or is at least distracting. Lighting of large rooms by gas is also unsatisfactory because of the need for frequent replacement of appliances, the odor and discolorations that frequently occur, and the difficulty of lighting. Both gas and electricity should, however be provided in corridors and stairways of church buildings so that a means of lighting may be available in case accident cuts off the electric power.

Examples of the varying degrees of installation and illumination by means of artificial lighting found in the seventeen churches may be observed in the half-tones of this book.

Samples of Very Defective Lighting

Illustration 81, page 51. Basement of the Union Baptist Church. Gas fixtures only partially equipped with mantles and globes.



ILLUSTRATION 57. SUNDAY SCHOOL ASSEMBLY ROOM, FIRST CONGREGATIONAL CHURCH SHOWING THE MAKESHIFT SCREENED CLASS ROOMS AT SIDE OF ROOM NOTE THE SPLENDID TYPE OF ELECTRIC FIXTURES USED

Illustration 81, page 151. Maplewood Baptist class room and kitchen. Very meager gas equipment.

Illustrations 50 and 62, pages 92 and 117. Mystic Side Congregational Church School Assembly and Church Auditorium. Lighted by gas only.

Illustration 51, page 94. Maplewood Methodist School Assembly Lighted by direct method of electricity. Obsolete gas fixtures also provided.

Illustration 71, page 137. Linden Congregational Kitchen. Insufficient number of fixtures. No wall fixtures for tables and sink. Clear glass bulbs for direct lighting.

Illustration 71, page 137. Maplewood Baptist Church School Assembly. Direct wall lighting at front of room into which auditors must look. Gas side lights of questionable value. Central chandelier of direct lighting which cannot provide adequate diffusion.

Illustration 56, page 103. St. Paul's Church School Assembly. Very objectionable unprotected direct lighting hanging too low.

Samples of Fair Lighting

Illustration 42, page 79. Linden Methodist Church School Assembly. Lights distributed throughout room. Direct lighting with ground glass tips and opalite glass reflectors.

Illustration 55, page 100. Centre Methodist Primary Class Room. Direct lighting but placed near the ceiling, properly distributed and with porcelain shades which partially protect the eyes from the source of light.

Illustration 32, page 70. Maplewood Methodist Church Auditorium. Direct lighting, but because of its height and location away from the center of the room not so objectionable as it otherwise might be.

Illustration 73, page 141. First Parish in Malden, Universalist. Community Room. Direct lighting made fairly satisfactory through proper location of fixtures and shading of lamps. Questionable location of wall fixtures on stage.

Samples of Desirable Semi-Indirect Lighting

Illustrations 76, 52 and 46, pages 144, 95 and 84. First Baptist Church Class Rooms and Parlor. Source of light hidden. Walls properly tinted to reflect light. A sufficient number of fixtures provided.

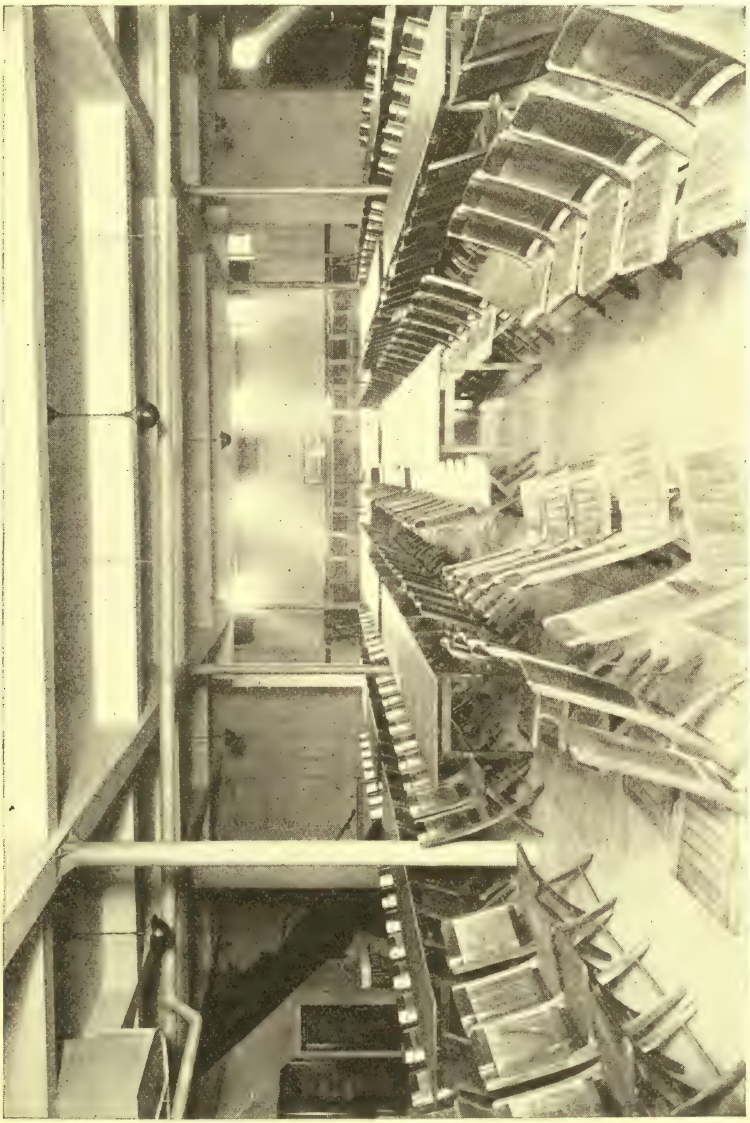


ILLUSTRATION 58. THE WELL-APPOINTED BANQUET ROOM IN THE BASEMENT OF THE FIRST BAPTIST CHURCH. SPLENDID INDIRECT ARTIFICIAL LIGHTING BUT INADEQUATE NATURAL LIGHTING



ILLUSTRATION 59. A SANITARY, WELL-MAINTAINED TOILET ROOM IN THE FIRST BAPTIST CHURCH

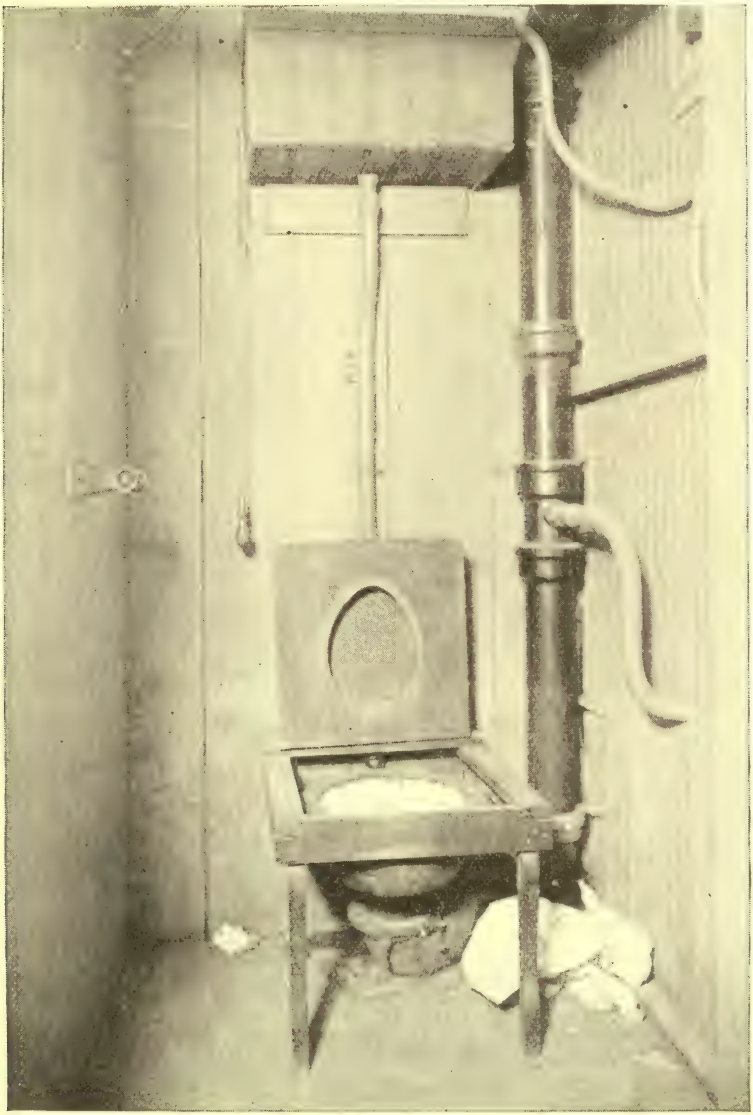


ILLUSTRATION 60. THE EXTREMELY UNSANITARY TOILET PROVISIONS OF THE ST. LUKE'S EPISCOPAL CHURCH

Illustrations 77 and 57, pages 145 and 105. First Congregational Class Room and Church School Assembly. Well lighted by semi-indirect method with proper distribution of fixtures about the assembly.

Illustration 67, page 172. Eastern Avenue Baptist Small Assembly Room. Light well diffused through porcelain. Church auditorium also so lighted. Fully equipped gas fixture at left for auxiliary lighting.

Illustrations 64 and 65, pages 121 and 122. First Baptist Church Auditorium. Well distributed light through translucent bowls.

Samples of Desirable Indirect Lighting

Illustrations 58 and 82, pages 107 and 153. First Baptist Church. Dining Room and School Assembly. Lights suspended in opaque bowls and in close proximity to ceiling. Reflected light only reaches diners or auditors.

E. Toilet Systems

This equipment varies from such excellent installation as is to be found in Centre Methodist and First Baptist plants as shown in illustration 59, page 108, to the very inferior and ill-kept equipment such as is shown in the illustration 60, page 109, and is to be found in St. Luke's and Maplewood Baptist plants. The toilet equipment of the church plant should be superior in every respect. It should set the standard for all other public and semi-public buildings and especially for the homes. The utmost of cleanliness and perfect sanitation should prevail. This standard was being successfully achieved in some of the church plants. In others, highly unsatisfactory conditions prevailed; the equipment was inadequate, no provision was made for the separation of the sexes; toilet paper was lacking as in illustration 60 page 109; evidence pointed toward almost total lack of care; and in one instance the presence of considerable obscene writing in the toilet booths indicated a lack of proper supervision. The foul toilet in the basement of the Maplewood Baptist plant should not have been allowed to exist in any institution, expecially not in a church. Every church board in Malden should assure itself that the standards of sanitation and cleanliness are not being violated in its institution.

F. Water Supply

The standards for water supply include three divisions:

1. Drinking fountains
2. Washing provisions
3. Hot and cold water

With the exception of the First Baptist Church, the seventeen churches fail in great degree to meet the standards of this item. Drinking fountains are conspicuous by their absence. The splendid fountains in the First Baptist Church are in marked contrast to the total lack of provision for sanitary drinking in other plants. Illustration 80, page 149, shows a class room for young children with a drinking fountain installed. With similar installations in corridors and other class rooms for very young children, this school and church plant is given a high score on this item. Such installation as is shown in the Maplewood Methodist, illustration 61, on this page, without the sanitary bubbler equipment, is adequate reason for a very low score. Past failure in the establishment of standards in this field is no doubt responsible for the inadequacy that Malden churches display on this item.

The provision for washing the hands are superior to the facilities provided for drinking water. It is highly satisfactory to find two churches with such high-grade wash bowl installation as is found in the Centre Methodist and the First Baptist churches. In illustration 59, page 108, may be seen the high-grade plumbing of one of these



ILLUSTRATION 61. UNATTRACTIVE, POORLY-EQUIPPED KITCHEN OF THE MAPLEWOOD METHODIST CHURCH

plants. Soap dispensers, paper toweling and waste paper basket are attractive elements in this situation. In some plants, wash bowls are lacking entirely or remote from toilets. In other plants the only place where hands may be washed is the kitchen sink which also is apparently used as a slop sink for the janitor. The standards on page 186 covering this item should be adopted by all church plants which are to be used over a period of years. Adequate toilet provision should be paralleled with the necessary wash bowl installations.

It is desirable that hot water be supplied at all wash bowls and sinks. The instantaneous heaters, to be observed in illustrations 86, page 163, and 83, page 159, make this provision easily possible. High-grade kitchen sinks may be seen in illustrations 83, page 159, and 86, page 161. The sink of the Linden Congregational plant, illustration 84, page 161, with its supply of cold water only, presents a real handicap to adequate kitchen service.

G. Other Service Systems

The standards for these auxiliary systems, such as clocks, signal systems, telephones, and service lifts are met in varying degrees in the seventeen plants. The efficiency of a plant depends in considerable degree upon the amount of acceptance that is found of the standards as outlined on page 187. Large plants, destined for community service, cannot be expected to be efficient without telephones, clocks and signal systems. The scores allotted these items indicate that advantageous changes can be made in some plants. The auxiliary service systems of the First Baptist and Centre Methodist plants were rated high by the judges.

H. Service Rooms and Fuel Rooms

On page 188 are incorporated the standards for these rooms. The janitorial force of a building cannot be expected to serve that building efficiently unless provided with a proper workshop and with proper tools. Adequate provisions for janitors will, in the future, be considered more and more necessary as buildings become better equipped to perform the service demanded of them. In the majority of the seventeen church plants the fuel room has also been located and constructed without regard to modern standards. Such elements as fire-proofness and dust-proofness have evidently not been included among the considerations on which they have been built. A scale of fuel rooms will show the First Baptist fireproof room at the upper end with a large number of fuel rooms at the lower end, such as those of the Faulkner Methodist, the Mystic Side Congregational and the Maplewood Baptist.

CHAPTER V

Item IV. Church Rooms

AS IS to be expected, the item of "Church Rooms" is more adequately cared for in the churches of Malden than in any other of the six main divisions of the score card. Even though this is true, the total scores given to the churches on this item show that most of them do not even approximate the maximum standards set for these rooms. The total score for this point is the sum of the scores given on the items: A, Convenience of Arrangement; B, Auditorium; C, Chapel or Small Assembly Room; D, Parlor and Church Board Room; E, Church Office; F, Pastor's Study, and G, Church Vault. The rank, actual score, and highest possible score of each church for the item of Church Rooms and the score for the above sub-items are given in Table VII and shown in Chart V.

An analysis of the several sub-items will show existing conditions in Malden better than the total scores, since it will indicate more specifically where the strong and weak points are and some of the possibilities of remedying them. The lower chart shows the upper chart divided according to the major subdivisions of the item, Church Rooms.

A. Convenience of Arrangement

In some of the churches where the score for this item is relatively high, it is because the convenience of the rooms was definitely planned for at the time of building. This was the case in the First Baptist, the People's Church of the Nazarene, the Linden Methodist and others. In some of the churches the fact that the present plant is the result of one or more additions, with the limitations thus placed upon convenience of arrangement, makes the scores relatively low. This is particularly true of St. Paul's Episcopal, the Robinson Methodist, St. Luke's Episcopal and the Maplewood Methodist.

In several of the churches the "Church Rooms" consist largely of the auditorium, and when other rooms in this group are provided they are frequently put into any available space regardless of their convenience with reference to the main auditorium and the principal entrances. There are several arguments against having a church or school auditorium upon the second floor of a building, only one of of which is the inevitable inconvenience of arrangement with the other rooms. Four of the churches surveyed have second story audi-

TABLE VII

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item IV—Church Rooms

Showing distributed scores on the major subdivision of this item as compared with the total possible score for each subdivision.

CHURCHES SCORED	Rank on basis of Score Allotted to Item IV	Maximum Possible Score and Allotted Scores	SUB-ITEMS Maximum Possible Score and Alloted Scores						
			A Convenience and Arrangement	B Auditorium	C Chapel or Small Assembly	D Parlor and Church Board Room	E Church Office	F Pastor's Study	G Church Vault
		170	**25**	**95**	**15**	**5**	**10**	**15**	**5**
First Baptist	1	152	23	85	14	5	5	15	5
Centre Methodist	2	121	18	83	5	2	10	3	0
First Parish in Malden, Universalist	3	116	18	76	5	5	2	10	0
St. Paul's Episcopal	4	112	15	81	5	3	0	8	0
Eastern Avenue Baptist	5	105	16	64	10	2	3	10	0
Mystic Side Congregational	6	98	15	67	3	2	0	10	0
People's Church of the Nazarene	7	95	20	54	5	1	0	15*	0
First Congregational	8	93	15	65	5	3	0	5	0
Robinson Methodist	9	88	7	71	5	0	0	5	0
Maplewood Methodist	10½	87	5	74	5	3	0	0	0
Maplewood Baptist	10½	87	20	57	8	2	0	0	0
Linden Methodist	12	86	20	55	8	3	0	0	0
St. Luke's Episcopal	13	79	5	70	2	2	0	1	0
Faulkner Methodist	14	77	12	59	5	0	0	0	0
Maplewood Congregational	15	69	8	54	5	2	0	0	0
Linden Congregational	16	61	7	47	5	2	0	0	0
Union Baptist	17	37	5	26	5	1	0	0	0
Maximum Possible Score		**170**	**25**	**95**	**15**	**5**	**10**	**15**	**5**

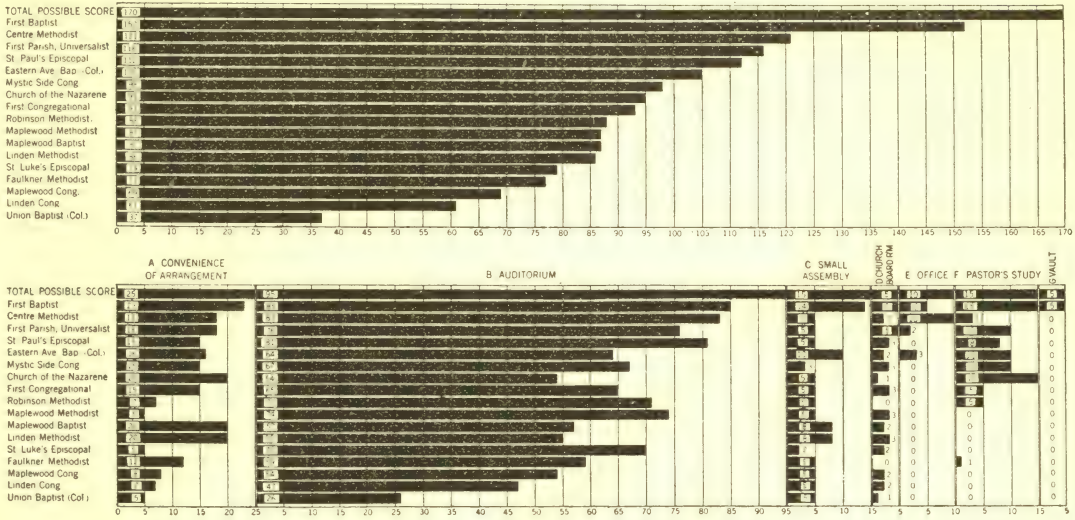
*Full credit allowed because parsonage, containing pastor's study, is attached to the church.

CHART V—CHURCH ROOMS

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM IV - CHURCH ROOMS

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM - CHURCH ROOMS



toriums. These are the Centre Methodist, the Robinson Methodist, the Maplewood Methodist and the Linden Congregational. In a sense the auditorium of the Maplewood Congregational may be considered as being on the second floor. The desirability of the splendid auditorium of the Centre Methodist is seriously reduced because of this fact. In the Robinson Methodist the second floor auditorium is reached by two straight, steep flights of stairs, one on the outside of the building. The inadequacy and inconvenience of the arrangement of church rooms in the Maplewood Methodist is as bad as any in the city. The auditorium shown in illustration 32, page 70, is reached only by the stairway shown in illustration 34, page 71. This narrow, poorly arranged, wooden stairway is wholly inadequate, since it does not permit more than two people abreast to ascend or descend. The stairway to the choir room and choir gallery is so narrow, winding and poorly lighted that it is inconvenient and dangerous even for ordinary use. The same inconvenience of arrangement is caused in the Linden Congregational Church by having the auditorium upon the second floor. It is impossible to reach the auditorium from several of the first floor rooms without passing through other rooms. Illustration 33, page 71, shows the awkward sunken entrance to the school auditorium and one of the winding stairways to the auditorium upstairs.

In St. Luke's Episcopal Church the joining of the two buildings which make the present plant was not done with any idea of convenience in using the two buildings at the same time. The sketch of the floor plan (not drawn to scale) will show the difficulty of passing from the church auditorium to the school auditorium or school rooms. If this is to be accomplished without going out of doors, it must be done by going through the robing-room, and around the organ through an opening just large enough to permit one person to pass at a time. Illustration 39, page 76, shows the way the two buildings are united and illustration 38, page 76, shows the main church and school foyer and the passage into the room back of the organ.

The Maplewood Baptist Church is one of the churches where the rooms are conveniently located both with reference to each other and also to the entrances. The one outstanding defect in this element is the location of the church parlor in a back second floor room reached by the steep narrow stairway shown in illustration 28, page 65.

The Eastern Avenue Baptist Church is a good example of church rooms arranged conveniently and in such a way as to secure a maximum of use. The main church auditorium opens directly by means of large sliding doors into the smaller assembly room at the rear. This makes



ILLUSTRATION 62. THE AUDITORIUM OF THE MYSTIC SIDE CONGREGATIONAL CHURCH WITH CLASS ROOMS TO THE REAR. WINDOWS IN ROOM ARE RAISED AND CLASS ROOMS USED TO SUPPLEMENT THE AUDITORIUM

it possible to supplement the seating capacity of the larger room by that of the smaller. This use could be made more readily if the pews in the smaller room were permanently faced in the opposite direction, which would have the added advantage of keeping the congregation, when using the smaller room, from having to look directly into the windows in front. This is shown in illustration 67, page 127. The pastor's study, the church office, the clerk's room and the mother's room are all conveniently located off the smaller auditorium.

The First Baptist Church is another example of conveniently located rooms. Illustration 65, page 121, shows the supplementary location of the smaller religious assembly room with reference to the main church auditorium. The other church rooms, with the exception of the church office, are conveniently located with reference to the entrances and the main church auditorium. The church office is very inconveniently located on an upper floor of the church school building.

As the community activities of the several churches are enlarged and the rooms are used at anything like their maximum capacity, the item of arrangement will be given much more consideration than it has in the past.

B. Auditorium

The church auditorium is considered, by the judges whose opinions determined the allotments of points on this score card, to be the most important single item in the church and religious education plant. In the group of church school rooms it represents over half of the total score possible, being responsible for 95 of the 170 points.

The church auditorium is so fundamental to the existence and persistence of any church group that the auditorium is provided whether any other room is or not. Because this room represents so large a proportion of the score and because it plays such an important part in the religious service which any church renders to its community, the score has been divided into the *thirteen* sub-items which appear on the score card and which makes it possible to evaluate more accurately the adequacy of the auditorium when considered as a total. It will present the situation in a more helpful way if the auditoriums of the seventeen churches of Malden which were surveyed are discussed with reference to the sub-items.

1. Size of Auditorium

Because of the importance of the auditorium, it is fairly safe to assume that it is adequate in size for the congregation using it. When



ILLUSTRATION 63. THE VERY ATTRACTIVE INTERIOR OF THE CHURCH AUDITORIUM OF THE ST. PAUL'S EPISCOPAL CHURCH



ILLUSTRATION 64. THE WELL-LIGHTED, ATTRACTIVELY DECORATED AND PLEASINGLY PLANNED AUDITORIUM OF THE FIRST BAPTIST CHURCH



ILLUSTRATION 65. SHOWING THE BALCONY AND DESIRABLE CONNECTION BETWEEN AUDITORIUM AND CHAPEL. FIRST BAPTIST CHURCH

it is evident that the auditorium will not accommodate all who desire to come—when, in other words, it is obvious that the size of the auditorium is keeping people from worshipping who otherwise would come, it inevitably starts a building campaign. It may be said of the Malden churches that most of them have auditoriums large enough to seat the present congregations. This is conspicuously not true of the Mystic Side Congregational Church and the Union Baptist, both of which are overcrowded and seriously handicapped by lack of space. Practically all of the church auditoriums, with the exception of the First Baptist, the Centre Methodist and the First Congregational, are too small to accommodate well-attended union meetings, or enlarged community gatherings.

2. Shape of Auditorium

The auditoriums of the surveyed churches in Malden are quite generally satisfactory in shape. Most of them are rectangular, with the pulpit and organ at one of the narrow ends. They are also uniformly good in the ratio of width to length, which should be approximately three to four. The length should never be more than twice the width. Only two of the churches in Malden are not given perfect scores in this item, and they are the Mystic Side Congregational and the Robinson Methodist. In both of these, and particularly in the Robinson, shown in illustration 29, page 66, the width is too great for the length and makes it impossible for all the congregation to have a direct view of the speaker. This fact is true of the auditorium of the People's Church of the Nazarene, when the doors are open and the school assembly makes a part of the main auditorium.

3. Seating

Nine of the seventeen churches received a perfect score for their auditorium seats, which would indicate that the pews are comfortable, properly faced relative to the pulpit and platform and arranged with aisles so that not more than twelve seats are between aisles. The seats used in the Eastern Avenue Baptist, Maplewood Baptist, St. Luke's Episcopal, Maplewood Congregational, Linden Congregational and Union Baptist are not standard and lack either in form or comfort or both.

4. Balcony

A church auditorium seating less than three hundred people should not have a balcony. Unless the room seats over four hundred, the balcony should be located at the rear of the room. The balcony of the First Baptist Church is inadequate, and it has the disadvantage

of being reached by winding stairways. With the present arrangement, people seated in the upper seats of the balcony face an annoying glare from the auditorium lights. The relation of balcony to auditorium is shown in illustration 65, page 121. The balconies of the Centre Methodist, illustration 53, page 97, and the Maplewood Methodist, are the only two to be given the total possible five points. Several of the churches have small balconies, inaccessible and with poor seating arrangements. One or two show by the conditions of the seats that they are not used.

5. Pulpit and Platform

All of the churches surveyed, have, of course, provided for pulpits and speaker's platform. The pulpits are in almost all cases removable, so that the platform may be utilized for other purposes, but the platform is generally inadequate in size for such uses. The low scores on this item in several of the churches were due to lack of equipment, chairs of pulpit not in harmony with the remainder of the room, inaccessibility of the platform from choir gallery or from main auditorium, too low or too high elevation of the platform or inadequate size or shape.

6. Baptismal Equipment

This item was provided for in varying degrees of adequacy, but in most cases sufficient provision was made for the needs of the church. In the Eastern Avenue Baptist Church and the People's Church of the Nazarene, there was inadequate provision for dressing rooms and for seclusion in entering and leaving the baptistry. The most adequate provision for this rite is made in the memorial baptistry of the First Baptist Church, shown in illustration 64, page 120.

7. Communion Equipment

Practically all churches have adequately provided for this item. In a few cases the service is not complete and several of the churches do not have on the pews the containers for the individual cups. The maximum of equipment is reached in the Eastern Avenue Baptist Church in which a room is set aside for this service.

8. Organs

The organ equipment of the seventeen surveyed churches varies from the large, adequate organ and echo organ of the First Baptist to the ordinary portable box organ of the Union Baptist and the Linden Methodist. Many of the churches have purchased good pipe organs and show their realization of the important place of music in their ser-

vices. In several cases the organs have not been as carefully installed as possible and inadequate space is left for the full speaking power of the organ. Detailed standards for two and three manual church organs are given in Appendix II, pages 205 to 210,

9. Choir Gallery

Most of the Malden churches have made provision for their choirs. Few have, however, made any provision for larger choruses in community pageants or holiday choral programs. The choir gallery in the First Baptist would be much more effective if so much space were not wasted in order to provide passageways to the baptistry. But few of the churches have choir galleries which can be used in conjunction with the platform and thus increase the available space upon occasion. The choir galleries in some of the larger churches are seriously handicapped by difficult, narrow stairways or doors leading to the gallery. This is true of the First Baptist and the First Parish in Malden, Universalist, and in the Maplewood Methodist. If the galleries are to be used for pageantry and processionals it is desirable to have inclines for approaches rather than stairways. Most of the choir galleries lack many of the special provisions which make them more usable, such as special lights, music holders, floors constructed on two levels or portable risers for banking choruses, etc.

10. Choir Rooms

A standard choir room is not be found in Malden. Many of the churches have places where a small choir may assemble, and hang up their wraps, but only three or four of the churches have made any attempt to provide choir rooms. In St. Paul's the present choir room is in the old building. See illustration 66, page 125. It is a large, barren room with a piano, uncomfortable benches and inadequate lockers for the choir robes. This is the only choir room large enough to serve as a rehearsal room. For further standards of these rooms as to size, number, location, and equipment, see pages 193 and 194.

11. Acoustics

In the large auditoriums of the Malden churches surveyed there is practically no acoustic problem. The length of the auditorium and balcony of the First Baptist is such as to cause a slight echo which is not at all annoying when the room is well filled. Many of the churches received perfect scores on this item because they are correct in shape for good acoustics and the auditoriums are so small that there is no trouble about being heard in all parts of the room.



ILLUSTRATION 66. CHOIR ROOM IN THE TEMPORARY PART OF ST. PAUL'S EPISCOPAL CHURCH. ROOM IS LARGE ENOUGH BUT EQUIPMENT IS VERY POOR, AND NO ATTEMPT TO MAKE ROOM ATTRACTIVE

12. Esthetic Effect

Three Malden churches received the maximum five points on this item. They are the First Baptist, illustrations 64, page 120, and 65, page 121, the Centre Methodist, illustration 53, page 97, and St. Paul's Episcopal, illustration 63, page 119. St. Luke's Episcopal, the Linden Methodist and the Eastern Avenue Baptist provide examples of smaller auditoriums which are clean and bright and decorated in good esthetic taste. The impression of the auditorium of the Eastern Avenue Baptist is marred by the various colored borders of the windows. In some respects the auditorium of the First Parish in Malden, Universalist, is one of the most attractive in the city, and, on the other hand, its windows are so heavily colored and with such a variation in the colors used that it results in a trying light so inadequate as to produce a depressing gloom. There were only 0.2 foot candles* in the center of this auditorium at the middle of the day, while at the pulpit and in the balcony there were respectively only 0.08 and 0.02 foot candles. This was not enough light to read by without the severest eye strain.

Some of the auditoriums were scored very low on the important item of esthetic effect because they had not been recently decorated, large water stains and discolorations were conspicuously present, and there was no attempt to provide a unity of color scheme throughout the room. The unconscious appeal of a bright, attractive auditorium, typifying in many respects the things that the churches are teaching, is a strong element in the success of the work of any church. It is hardly consistent, and, even if not inconsistent, it is poor pyschology to ask people to leave their homes in order to worship in a room which is less comfortably furnished and less appropriately decorated.

13. Cloak Room

There is practically no provision in the Malden churches to care for wraps and umbrellas. Four or five of the churches have provided hooks about the halls and foyer and two have umbrella racks. In none of these is there a separate room conveniently located in which coats and wraps may be left or where an attendant may easily and systematically care for these during services or special programs. Provision should be made for wet rubbers and umbrellas in racks or cases similarly numbered to the lockers in which the wraps are placed. This will facilitate the use of any checking system. Eleven of the seventeen churches have made no provision for this item.

It is difficult and not very satisfactory to generalize upon the ade-

* Measured with the aid of a Macbeth Illuminometer.



ILLUSTRATION 67. SHOWING CHAPEL OR SMALL ASSEMBLY ROOM OF EASTERN AVENUE BAPTIST CHURCH. NOTE CONVENIENT ARRANGEMENT OF ROOMS. LADIES' PARLOR, PASTOR'S STUDY, LIBRARY, CHURCH OFFICE ALL OPEN INTO THIS ROOM. PLACING OF SEATS MAKE AUDIENCE FACE COLORED WINDOWS

quacy of the church auditoriums of the churches of Malden, but since the auditorium is one of the elements of the church and religious education plant which is always provided, it is at least significant to notice some facts about the entire situation. According to the scores allotted by the four judges, 12 per cent. of the auditoriums receive less than 50 per cent. of their possible score, 59 per cent. receive less than 75 per cent. of their possible score. The remaining 29 per cent. receive between 75 per cent. and 89 per cent. of their possible score. These figures are only interesting as they indicate that some of the standards which would make the church auditoriums more effective as meeting-places for the communities have been neglected.

C. Chapel or Small Assembly Room

Such a room is deemed an essential in the church room equipment of most churches. It gives a meeting-place for smaller gatherings, prayer meetings, large committees or other organizations where the nature of the meeting calls for less formality and the free participation of those present. The need for such a room is realized by every one of the churches, but special provision for such a room has been made by only two or three. The small assembly room in the First Baptist Church is adequate and convenient for the holding of these smaller meetings. Illustration 68, page 129, shows the platform of this room. The Eastern Avenue Baptist has a room distinctly used for this purpose. See illustration 67, page 127. In both this room and the one in the First Baptist, however, the audience is compelled to look directly into windows, which is very trying because of the direct light and also because of the colored glass in the windows. The Linden Methodist and the Maplewood Baptist each have rooms which easily may be used for these smaller meetings, but which also had to serve other purposes as well and so cannot be as appropriately furnished. In the other churches these smaller meetings are cared for either in the large auditorium or in the religious school assembly. Neither of these makeshifts will secure the same easy informality so essential to the success of many of these meetings.

D. Parlor and Church Board Room

There are certain functions of a church, such as small receptions to visiting ministers, lecturers, etc., meetings of the church board or meetings of combined or joint committees when a room is needed which is not distinctly a church room in the literal meaning of the word. It should be more "homelike" than the usual office and yet should be furnished with the proper facilities for carrying on the different kinds of service assigned to it. The most adequate pro-



ILLUSTRATION 68. A SUNDAY SCHOOL ASSEMBLY ROOM IN THE FIRST BAPTIST CHURCH. WELL EQUIPPED PLATFORM, AND ATTRACTIVE ROOM, BUT AN ANNOYING SERIES OF CROSS LIGHTS FOR AUDIENCE TO FACE

vision for this room is in the First Baptist Church shown in illustration 46, page 85. This double room can be divided and used for two groups or thrown together for larger groups. It is attractively furnished and lends itself readily to a number of uses. The First Parish in Malden, Universalist, also has made special provision for such a room. It is not so conveniently located as in the First Baptist. Provision for this room is made in St. Paul's Episcopal, Mystic Side Congregational, Maplewood Methodist, First Congregational, and Maplewood Baptist, although in these as well as in the other churches the rooms are often used for other purposes and thus lose the distinctive character which they would otherwise possess.

E. Church Office

If a church is to be a constant factor in community service it must be reachable at all times or at least at frequent and regular times. It must have accurate and usable records of its members and activities. It is significant that only four of the seventeen churches provide a church office where permanent records may be kept and where the church secretary may do his work. These are, in order of the adequacy of their provision, the Centre Methodist, the First Baptist, the Eastern Avenue Baptist and the First Parish in Malden, Universalist. The efficiency of the office of the First Baptist is seriously handicapped because of the inaccessibility of the room. The office of the First Parish in Malden, Universalist, presents only slight evidence of efficiency.

F. Pastor's Study

The First Baptist, the First Parish in Malden, Universalist, the Mystic Side Congregational, the Centre Methodist, the Eastern Avenue Baptist, and St. Paul's Episcopal, may be said to provide pastor's studies which can be used for that purpose. In the People's Church of the Nazarene, full credit was given because the parsonage, containing a study, is attached to the church. In the other churches the pastor is expected to maintain his own library and study in his residence. This makes it less easy for him to be in the church and in touch with the various lines of activity which the church is sponsoring. To be sure, when in the church building, his reading may be more often interrupted, but it is equally true that the opportunities for exerting his influence upon the play and work of his congregation and upon the individuals who will go to him for help and advice when he is accessible will be so much greater in number that they will more than offset the disadvantages of interruption.

G. Church Vault

There is now a clear realization in modern institutions that it is necessary to make and preserve accurate records of their work. It is only from the intelligent study of accumulated data that we are able to plan the future development of any work in a way to avoid the mistakes and profit by the successes of the past. The time, effort and expense of making such records of a church's activities are hardly justified unless there is a safe place provided for keeping them. A vault which is both fireproof and damp-proof and large enough to store the accumulating documents over a long period should be part of every church and religious education plant. This is particularly necessary where the religious school hopes so to do its work that it may be a real factor in the education and development of boys and girls. Such a vault is provided in the First Baptist Parish House, but it is the only one in the seventeen churches surveyed.



ILLUSTRATION 69. SUNDAY SCHOOL ASSEMBLY ROOM OF THE FIRST PARISH IN MALDEN, UNIVERSALIST. A WELL FURNISHED, IMPROPERLY LIGHTED ROOM, SHOWING BALCONY CONNECTION TO INADEQUATE CLASS ROOMS



ILLUSTRATION 70. BEGINNERS' CLASS ROOM, CENTRE METHODIST CHURCH. A WELL EQUIPPED CLASS ROOM WITH MANY EVIDENCES OF GOOD TEACHING AND MODERN METHODS. IT IS UNFORTUNATE THAT THIS CLASS ROOM IS LOCATED ON THE SECOND FLOOR

CHAPTER VI

Item V. Religious School Rooms

SCHOOL rooms for the adequate and efficient teaching of religion in the churches of Malden range in score from 140 to 13 points of a possible 200. Three churches only (First Baptist, 140 points, Centre Methodist, 119, Universalist, 102) manage under this heading to exceed one-half the standard score on the basis of the judgments rendered. The scores on this main item of the score card are given in Table VIII and graphically represented in Chart VI. The lower charts show the upper chart divided according to the major subdivisions of the Item—Religious School Rooms.

Most of the buildings reflect the uniform lesson standards prevalent twenty years or more ago. Some progress toward the full separation of departmental and class rooms may be noted, even in the smaller churches such as Mystic Side Congregational and the People's Church of the Nazarene. For the current systems of graded lesson teaching, with separate departmental assemblies and organized class life, the larger and newer churches have made creditable provision. A desire to make the best of available facilities is everywhere apparent.

The standard here employed assumes that every church school is responsible for an effective and adequate teaching of religion. To be effective, this teaching must be done, grade by grade, under the conditions which experience has shown to be necessary for the doing of good school work in that grade. To be adequate, it cannot be confined to an hour on Sunday, but must reach into the school hours of the week. The class instruction must also be supplemented by assembly worship and instruction and by various forms of class and club life, recreation and platform expression. Rooms that fail to reach this standard fall short of making possible the full discharge of the church's educational responsibility; and the shortage cannot be met by any amount of human skill and devotion.

A. Location and Connection

Proper location of each room and proper connection and relationship between rooms are necessary to the educational efficiency both of the class room and of the assembly. There is excellent connection between the rooms in each of the two buildings of the First Baptist, but a full assembly cannot be called without many classes having to

TABLE VIII

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item V—Religious School Rooms

Showing distributed scores on the major subdivision of this item as compared with the total possible score for each subdivision

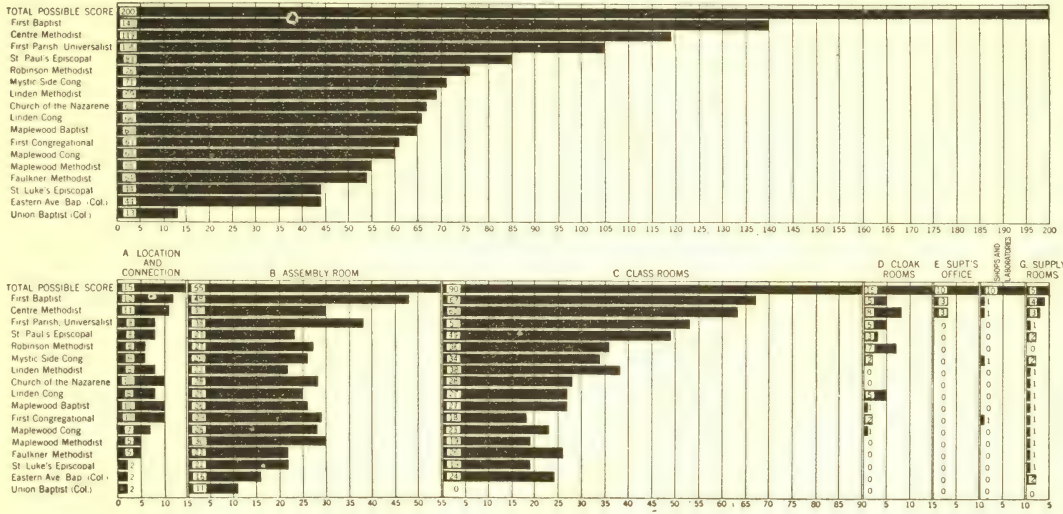
CHURCHES SCORED	Rank on Basis of Score Allotted to Item V	Maximum Possible Score and Allotted Scores	SUB-ITEM Maximum Possible Score and Allotted Scores						
			A Location and Connection	B Assembly Room	C Class Rooms	D Cloak Rooms Wardrobes	E Superintendent's Office	F Shops and Laboratories	G Supply Rooms
		200	**15**	**55**	**90**	**15**	**10**	**10**	**5**
First Baptist	1	140	12	48	67	5	3	1	4
Centre Methodist	2	119	11	30	63	8	3	1	3
First Parish in Malden, Universalist	3	105	8	38	50	5	0	0	1
St. Paul's Episcopal	4	85	8	23	49	3	0	0	2
Robinson Methodist	5	76	6	27	36	7	0	0	0
Mystic Side Congregational	6	71	6	26	34	2	0	1	2
Linden Methodist	7	69	8	22	38	0	0	0	1
People's Church of the Nazarene	8	67	10	28	28	0	0	0	1
Linden Congregational	9	66	8	25	27	5	0	0	1
Maplewood Baptist	10	65	10	26	27	1	0	0	1
First Congregational	11	61	10	29	18	2	0	1	1
Maplewood Congregational	12	60	7	28	23	1	0	0	1
Maplewood Methodist	13	55	5	30	19	0	0	0	1
Faulkner Methodist	14	54	5	22	26	0	0	0	1
St. Luke's Episcopal	15½	44	2	22	19	0	0	0	1
Eastern Avenue Baptist	15½	44	2	16	24	0	0	0	2
Union Baptist	17	13	2	11	0	0	0	0	0
Maximum Possible Score		**200**	**15**	**55**	**90**	**15**	**10**	**10**	**5**

CHART VI—RELIGIOUS SCHOOL ROOMS

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM V – RELIGIOUS SCHOOL ROOMS

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM - RELIGIOUS SCHOOL ROOMS



face the weather. A covered way, conveniently entering both buildings, would meet this defect. See illustration 22, page 59.

The connections made between class rooms and assembly rooms in such plants as the Centre Methodist, St. Paul's, First Parish in Malden, Universalist, First Congregational and others leave much to be desired. The relationship between class rooms and assembly rooms in the Centre Methodist is not conducive to effective school management. The corridors and stairways of the upper floors are inadequate for a mass movement to or from the floor below. From the church auditorium of First Congregational the descent to the Sunday school floor is by rather narrow stairs to a narrow and dark passageway, from which one reaches the main room only by going through one of the department rooms. This is clearly shown in illustration 37, page 74. The kindergarten room of St. Paul's Episcopal is reached by climbing a winding stair such as is seen in illustration 27, page 65. The class rooms in the residential annex of St. Paul's are approached only by the narrow, single stairway of the old residence. Faulkner Methodist has one narrow, winding stair as the sole interior connection between its church floor and the basement rooms, as seen in illustration 36, page 74.

Other examples of inadequate connections may be seen in illustration 51, page 94, of the Maplewood Methodist; 40, page 77, of the Maplewood Congregational; 81, page 151, of the Maplewood Baptist plant; and 62, page 117, of the Mystic Side Congregational Church. In the latter instance, the kindergarten room is located on the second floor with three windows overlooking the church auditorium. The school assembly is on the floor below the auditorium, while another class room is on the auditorum floor.

B. Assembly Room

Twelve of the seventeen rated churches reached the standard score (10) as to the adequate size of the church school assembly room. The adequate size is due in such instances as the Maplewood Baptist and the Robinson Methodist to the fact that the school assembly room is an outgrown church auditorium. Thus this excellence is in most cases inherited; the tendency of recent years being toward reduced general assembly space and wholly separate departmental assemblies. But the new conceptions of church school responsibility and scope of service demand a large and fully equipped assembly as well as separated assemblies for the beginners, primary and other departments.

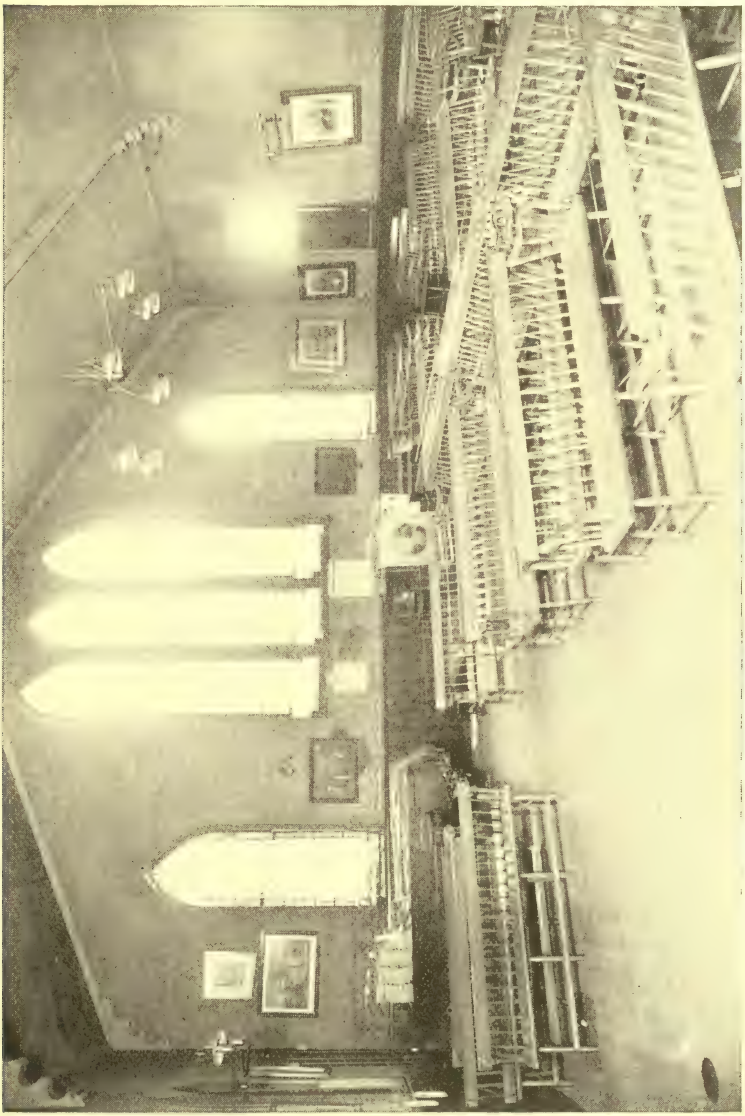


ILLUSTRATION 71. SUNDAY SCHOOL ASSEMBLY ROOM OF MAPLEWOOD BAPTIST CHURCH. NOTE STRONG LIGHT TO BE FACED, POOR ARTIFICIAL LIGHTING, AND BENCHES ARRANGED FOR SEATING A DOZEN OR MORE CLASSES IN THE SAME ROOM

It has been frequently suggested that the proper assembly room for the Sunday school is the church auditorium. There are, however, serious drawbacks to this combination. Where one service follows the other, the friendly greetings and conferences that properly delay withdrawal clash sharply with the need for a prompt and reverent opening of the service that is to begin. When the standards for the pulpit, chancel and setting of a church auditorium are compared with those for an efficient church-school assembly, with its platform, stage, picture screen, entrances and lighting effects, it is seen how difficult a problem it is to combine the two without injury to either.

On location the assembly rooms of the Church of the Nazarene, Linden Congregational, Maplewood Baptist and Methodist and Eastern Avenue Baptist received full scores. These were well situated above ground with good entrances. Several were located in basements or otherwise inconveniently, and thus were reduced in score. The First Baptist, Universalist, Church of the Nazarene and First Congregational received full score as to seating of the assembly room. The seating of these rooms may be seen in illustrations 82, 69, and 57, pages 153, 131, and 105, respectively. Inadequate seating may be observed in illustrations 71, 51, 50, and, 35 pages 137, 94, 92, and 72, respectively.

No divided opinion obtains as to the value of good daylight for all parts of school assembly rooms. On this vitally important item only one church, Mystic Side Congregational, made full score (10); Maplewood Congregational reaching 8 and First Baptist 7. Size and location of windows in the last case were sacrificed in the main building for the sake of a massive architectural effect; in the community building on account of limited lot room. In order to utilize the ground up to the line, a dead party wall was built, requiring that all illumination should come from the other side, already shadowed by the main building. The blank wall of one side of this school assembly is shown in illustration 20, page 57. The interior view of the adult assembly, illustration 82, page 153, shows this room lighted from the right side only. There are no windows to the left. The departmental assembly, shown in illustration 80, page 149, is also lighted from one side only, viz., from the right. The main light passes through the four windows to the immediate left of the side entrance shown in illustration 22, page 59. It is quite evident that these four windows cannot furnish adequate light for a room which runs the entire width of this building. The secondary light entering this room only slightly supplements the light from the four windows. The front lighting of the Maplewood Baptist assembly as seen in illustration 71, page 137, is a particularly faulty typeof lighting and one to be avoided.



ILLUSTRATION 72. SUNDAY SCHOOL ASSEMBLY ROOM CENTRE METHODIST CHURCH. AT THE RIGHT AND LEFT OF THIS ROOM CLASSES ARE ASSEMBLED ON CHAIRS ABOUT TABLES WITH LITTLE OTHER EQUIPMENT.

The high standards for platform and stage have not been approached. These standards suggest a utilization of the school assembly for pageantry, dramatization and other school and community activities which cannot become possible because of the inadequate provision of the majority of assemblies in the seventeen plants. The highest scores on this item were allotted the First Parish in Malden, Universalist, and the First Baptist plants. These platforms may be seen in illustrations 73 and, 82 pages 141 and 153. The inadequacies of even these situations may be seen by a careful perusal of the standards on pages 197 to 199. The total inadequacy of the "Platform and Stage" of other plants is quite apparent in illustrations 71, 72, 51, pages 137, 139, and 94.

Under "Moving Picture Booth and Stereopticon (10)," only six scored at all, First Baptist having full score, Maplewood Methodist 7, and Centre Methodist, Universalist, Mystic Side Congregational and First Congregational, 5 each for the lantern. The need of an equipment for picture teaching and dramatization has apparently not yet been conceded by all the churches.

The standard for "Decoration of Assembly Rooms (5)" is reached by the First Baptist Church with its harmonious combination of dark wood, white walls and well chosen pictures and furniture. The People's Church of the Nazarene also rates high. Far too little attention has been given by the majority of the churches to the "unconscious tuition" ministered by walls, windows, pictures and the general atmosphere of the church rooms.

The best type of assembly room in the seventeen plants is shown in illustration 82, page 153. The seats are comfortable and well spaced, the pictures are exceedingly high grade and desirable, and there is good, indirect artificial lighting. Note the lantern screen in platform ceiling; this should be mounted inside the proscenium arch, out of sight. Large class rooms with fairly tight movable partitions occupy the rear corners of the room, that to the left being much in need of daylight illumination.

Another type of assembly room is that of the Maplewood Methodist illustration 51, page 94. Note the front illumination; long benches, making class grouping difficult; the church stove taking up part of the room; attached rooms for the children's departments reachable only by raising the movable sashes. The library also has no separate room, the shelves being ranged along the wall to the right. There is a beginning in the work of wall decoration.



ILLUSTRATION 73. COMMUNITY ROOM OF FIRST PARISH IN MALDEN, UNIVERSALIST CHURCH. A BASEMENT ROOM WITH INSUFFICIENT NATURAL LIGHT. HAS PLATFORM STAGE WHICH CAN BE USED FOR SCHOOL AND COMMUNITY ENTERTAINMENTS

C. Class Rooms

No uniform or adequate standards have been the basis for the planning of the class rooms in the seventeen plants. A scale of classrooms beginning practically at zero and extending to a point at some distance remote from perfection may be readily established from the samples found in these plants.

The need that each class shall have its separate class room, freed by a solid wall from distractions visible and audible, is fundamental in any plan of effective teaching. Releasing at once that part of the teacher's energy that in a "main room" is expended in neutralizing counter-attractions, it also makes possible the handling of a much larger class without disturbance of others, permits free use of blackboard, maps and manual methods, encourages the functioning of the class organization, and may be developed and decorated as the organization's week day headquarters and home. Such rooms as are shown in illustrations 76 and 77, pages 144 and 145, contrast sharply with the back-to-back benches of the Maplewood Baptist, or indeed with any of the numerous efforts at class segregation brought to light in this survey.

For the cradle roll class of older babies a suitable nursery room is needed, adjoining the beginners' room and the mothers' class. For



ILLUSTRATION 74. ONE OF SEPARATE CLASS ROOMS MADE BY SCREENS AT THE SIDES OF THE SUNDAY SCHOOL ASSEMBLY OF THE FIRST CONGREGATIONAL CHURCH



ILLUSTRATION 75. PRIMARY CLASS ROOM, FALCONER METHODIST CHURCH. IRREGULAR AND INADEQUATE FURNITURE, INCONVENIENT ARRANGEMENT, GAS HEATER, AND GAS LAMPS



ILLUSTRATION 76. CLASS ROOM OF THE FIRST BAPTIST CHURCH, EQUIPPED ONLY WITH CHAIRS AND COAT RACKS

the beginners' and primary department rooms the table-circles shown in illustration 70, afford all the segregation needed for that small part of the hour that is devoted to class work and the telling of the lesson stories. A wide floor that can be cleared quickly for room activities is relatively of far greater importance. This picture from Centre Methodist illustrates some of the furnishings of a good beginners' room, as currently advocated.

How a well-equipped primary room may be ruined by poor lighting is well shown in the two pictures of the First Congregational Church, illustrations 77 and 21, pages 145 and 57. Viewed by the photographer's flash, the room seems nearly ideal. But through those large windows almost no light comes except at certain times of day; and the second picture shows why. The shadow of the adjoining house falls on the windows like a black curtain, making artificial light a necessity. The church has wisely made this light as soft and pervasive as possible.

This view of the joint beginners' and primary room in First Congregational Church shows the seats when arranged for the circle talk at



ILLUSTRATION 77. PRIMARY CLASS ROOM, FIRST CONGREGATIONAL CHURCH. A WELL ARRANGED AND WELL EQUIPPED ROOM. GOOD ARTIFICIAL LIGHTS OVERCOME THE POOR LIGHT CAUSED BY ADJACENT BUILDINGS.
SEE ILLUSTRATION 21, PAGE 57

the opening of the hour, with blackboard and class tables ready for use later. The low-hanging pictures, teacher's desk and rack for clothing should also be noted.

For the junior department the class question is harder to handle. The view of the large junior room of First Baptist, illustration 80, page 149, with many classes, each a few feet from its neighbor and each circled around a table, illustrates what seems at present the only way to handle class teaching in a large junior department. So long as the church continues to employ amateur teachers, substituting numbers for quality, this arrangement will doubtless continue to be the rule. Where the room is small, as in Faulkner Methodist, illustration 75, page 143, it is more difficult to avoid interference of class with class. Large classes, each in its own well-planned class room, and each in the hands of a well-trained teacher, would seem the proper educational provision, Sunday and week day, for the junior grades.

When we reach the intermediate and senior classes, the need of entirely separate class rooms is felt to be imperative by every teacher with a clear teaching ideal. Malden is full of attempts to meet this. St. Paul's Episcopal houses several of its classes in the rooms of a converted dwelling house, illustration 24, page 61, and endeavors for the rest to get good class conditions out of a series of long tables. with separating curtains, under the windows of its large assembly



ILLUSTRATION 78. ONE OF THE BEST CLASS ROOMS IN THE RELIGIOUS EDUCATION PART OF ST. PAUL'S EPISCOPAL CHURCH

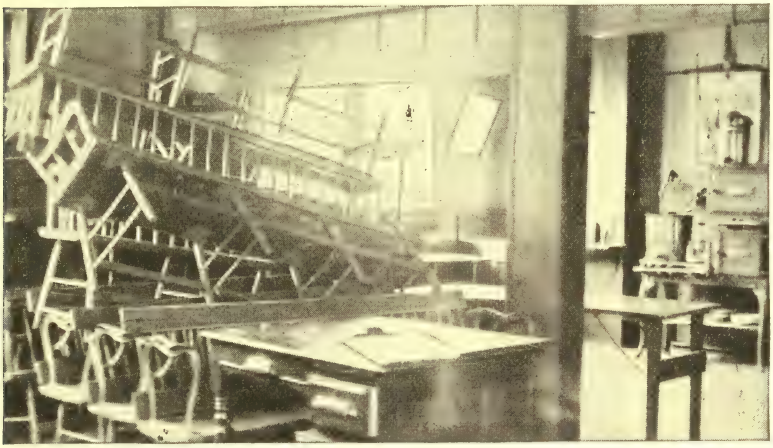


ILLUSTRATION 79. KITCHEN AND CLASS ROOM OF MAPLEWOOD BAPTIST CHURCH USED AS A STORE ROOM BECAUSE OF FAILURE TO PROVIDE SUCH SPACE IN ORIGINAL PLANS

room, illustration 56, page 103. The First Congregational in a somewhat similar situation, uses burlap screens, with narrow collapsible tables, as shown in the view of such an improvised class room, and of the school assembly, illustrations 74 and 57, pages 142 and 65. The Centre Methodist for some of its classes uses merely a table with chairs, with many classes provided for in the same room. The Maplewood Baptist Church as seen in illustration 71, page 137, uses an arrangement of four assembly benches to give these children a sense of class segregation. The Centre Methodist, First Parish in Malden, Universalist, illustration 69, page 131, and the First Baptist provide for such classes a supply of small class rooms, not always well shaped, conveniently reached, adequately lighted or with suitable ventilation. Several of the other churches supply one or more rooms for this need as their facilities allow. Somewhat larger rooms, to seat from sixteen to thirty each, would be more in line with indicated tendencies in church school architecture for the needs of tomorrow.

Little attention has been given to the matter of class room floors in most of the churches. This is partly due to the fact that in many cases the class rooms are occupying the oldest parts of the building, which have been outgrown for other purposes. The contrast in this item may be seen in the floors shown in illustrations 70 and 56, pages

132 and 103. If these rooms are to be used as "home rooms" for the various classes the effect of a good floor which can be kept clean, and upon occasions adorned with rugs is a decided advantage as well as a good influence. The same lack of attention which characterizes so many of the floors of the religious class rooms in Malden is even more true of the walls and ceilings of these rooms. Many of them present a very uncared-for, dismal appearance because of old, faded and discolored paper, cracked and broken plaster, and large weather stains. In practically every case where recent redecoration had been done it was in the church auditoriums and not in the class rooms. Not much attention is given in the class rooms of the Malden churches to the use of pictures on the walls. In many of even the better rooms there were no pictures while in many others the pictures were poor prints of inappropriate subjects. Examples of the use of better pictures are shown in illustrations 82, 70 and 77 on pages 153, 132 and 145 respectively, while illustrations 71 and 51, pages 137 and 93, show the use of less desirable and less appropriate pictures. The total absence of pictures in the class rooms of some of the churches and the resulting barrenness of the rooms is evidence of a failure to use the elevating influences exerted by artistic masterpieces.

Blackboards and bulletin boards for the easy mounting of pictures, exhibits and notices were conspicuously rare. In only a few class rooms was there more blackboard space that is furnished by one or two movable blackboards. The use of blackboards for instructional purposes, especially with the younger children, is entirely impossible. A bulletin board or other display surface where pictures or samples of the work of the children may be attractively shown is an easily obtainable and highly desirable asset to modern instruction, and yet it is found in but very few of the religious class rooms of the seventeen churches surveyed. Such a surface made from a strip of burlap is shown in illustration 77, page 145.

A standard class room has doors swinging either outward or having a two-way swing. Even in the most modern plants in Malden this highly desirable standard is not followed. Class rooms should have built-in closets or cases for the storage of books and supplies and where a class room has no built-in closet, a neat cabinet for books, supplies and class exhibits would seem to be indispensable; even in the class rooms like those of illustrations 76 and 70, pages 144 and 132, inadequate provision is made in this matter.

The standards on natural illumination of class rooms require the placement of windows to the left of the pupil or student, with the elimination of all window area to the rear. They require that the

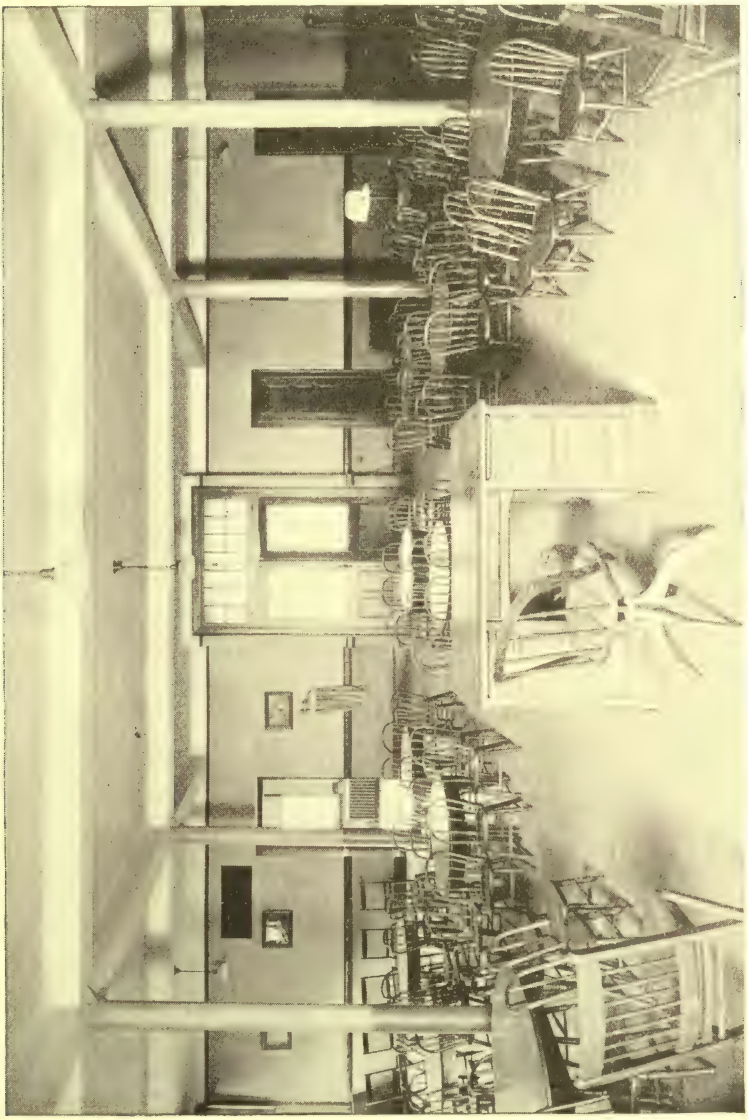


ILLUSTRATION 80. CLASS ROOM, FIRST BAPTIST CHURCH. WELL EQUIPPED, ATTRACTIVE CLASS ROOM, BUT WITH INADEQUATE NATURAL LIGHT DUE TO BLANK WALL ON ONE SIDE OF BUILDING

ratio between clear glass window area and floor area may be as 1 to 4. The non-conformance to such standards may be readily observed in the illustrations of class rooms. The standard, it must be remembered, is what public school leaders have found indispensable to secure satisfactory results in class work with avoidance of deleterious eye-strain. Only the light and casual use that is made at present of church school facilities saves them from more severe condemnation. It may not now be possible to enlarge the glass area to the standard of 20 to 25 per cent. of the floor area; but at least the seats of some classes might be so turned as to bring what light there is to the students' left and not in their faces.

Seats and desks for a church school, when of standard efficiency, rate at 10 points. Two churches only, the First Baptist and the Centre Methodist, reach half of this score; the Universalist and Robinson Methodist followed. While the single movable school desk has not appeared as yet in many church class rooms it will be introduced as time progresses.

For most of the seating surveyed little can be said in extenuation. In most cases a few children's chairs are provided, but not all of these are in good order (see illustration 77, page 145 of First Congregational, primary room, page 143, and the evidence of careless handling shown at Maplewood Baptist, illustration 81, page 151). The teacher's need of a good desk is almost entirely ignored. The tables used for the smaller children's classes in many of the churches have been counted as standard when of satisfactory size and construction with chairs to suit. In handling classes of boys and girls from the third grade and upward of the public schools, the seats to be found in most of the Malden class rooms will not suffice. Boys and girls should be given desks with working surfaces, with storage place for books and materials. These desks should be assigned so that each child feels a responsibility for his own.

The remainder of the instructional equipment was in the majority of cases as inadequate as the seating and blackboard provisions. Burlap class walls, with rickety sewing tables as desks, uncomfortable auditorium benches for seats and one map on the wall do not make for much efficiency. Boys and girls do not desire to be talked to only, but wish to participate in class room work by activities of their own and by handling concrete materials. The standards, page 201, suggest that the equipment should include maps, globes, display exhibits, scrapbooks, stereopticons and tables, pianos and the like. The most adequate provisions were those of the Centre Methodist and the First Baptist plants. (see illustrations of class rooms for details.)



ILLUSTRATION 81. CLASS ROOMS IN THE MAPLEWOOD BAPTIST CHURCH. NOTE THE DEFECTIVE LIGHTING, THE POOR EQUIPMENT AND THE MAKESHIFT SAND BOX. TEACHING BECOMES DIFFICULT UNDER THESE CONDITIONS

No teacher who has struggled to hold attention against the impertinent interruptions of main-room noise will undervalue the item of separateness in class room construction. On this vital point the score is 10; and such class rooms as the churches have provided scored under it from 9 points (First Baptist) all the way down. Reliance on so-called sound-proof partitions, some of which formed the only doorway to the rooms, was the cause for many of the low scorings.

D. Cloak Rooms

What inconvenience, loss and confusion is regularly caused by the absence of such provision, and what distractions arise when any movable article of outdoor wear is carried by the child to his seat, the Sunday school teacher knows full well. Proper installations under this head are the cheapest of all ways to increase educational efficiency. The standards suggest that "Cloak rooms should adjoin class rooms of little children and be under teacher control. Cloak rooms should provide ample space for winter wraps for each child. The heights of hooks should be adapted to heights of children. Umbrella racks should be provided. Cloak rooms should be easily accessible to children and so arranged as to avoid confusion. Cloak rooms should be provided with natural and artificial light." That these standards are not met may be seen from the racks of illustrations 76 and 77, pages 144 and 145, and the hooks of illustrations of 81 and 54, pages 151 and 99. The nearest approach to the standards is to be found in the cloak rooms under the organ in the Centre Methodist plant.

E. Superintendent's Office

Centre Methodist, taking seriously the work of the superintendent of its church school, has provided him with an office for the better performance of his duties. It is not much of an office, being but a little space available under a stairway, but it is good as far as it goes. It may be seen in illustration 26, page 65. The First Baptist has furnished its primary superintendent also with a room for his work and the storage of department supplies. The other fifteen churches have given their superintendents no office whatever.

F. Laboratories

As the church confronts its social responsibilities and plans its educational service for the years to come, various forms of manual training, available as means of religious culture, come into view and must be provided for. Daily Vacation Bible Schools are already bringing



ILLUSTRATION 82. THE ADULT ASSEMBLY OF THE FIRST BAPTIST PARISH HOUSE. NOTE THE COMFORTABLE SEATS, THE WELL SELECTED PICTURES AND THE INDIRECT ARTIFICIAL LIGHTING. UNFORTUNATELY, NATURAL LIGHT COMES FROM THE RIGHT ONLY

into the churches many types of handwork for boys and girls, and our share in the great crusade of Americanization will extend this movement to seniors and adults. A geography room, equipped with sand tables and facilities for modeling maps in pulp and plasticine, is now in regular use in some well-graded Sunday schools and has fully justified its installation. Work rooms of some sort, therefore, are properly specified for the standard plant of the church school. This is what should be. As to what it is, the story is not long. On a score of 10 points, First Baptist, Centre Methodist, First Congregational and Mystic Side Congregational score 1 point each. The other churches score zero.

G. Supply Rooms

A supply room for the many stocks of printed matter, lesson helps, blanks, forms, etc., needed in a live church school, is a need obvious to all. In the Union Baptist nothing to correspond with this could be found; in ten others there was enough to score 1; in three more, 2; while Centre Methodist scored 3 and First Baptist, 4. When week-day work comes in, the need of an ample room for both storing and handling supplies will have to be met. But as to this and every other accessory item, why should these real needs of the Sunday school, however incidental, be so easily passed by? Surely the best we can provide for Monday's lessons in arithmetic and spelling is none too good for Sunday's lessons in Christian character.

CHAPTER VII

Item VI. Community Service Rooms

IT'S a far cry from the four-wall-pulpit-roof-and-steeple church of yesterday to the standard church and religious education plant of today. The contrast is indeed great, but no greater than the contrast between the pioneer home of our parents and the home we hope our children may enjoy. Every phase of our social and industrial organization has made such rapid strides in the development of its physical plant, equipment and machinery within the past few years that the old shells that were adequate in their day have been abandoned as obsolete and useless. We have only to note the transportation facilities, the highways, the public buildings, the schools and the like to appreciate the rapidity with which standards are changing. The school that at one time kept such children as wished to attend fairly dry, reasonably warm, and taught them the "three R's" was sufficient in its day. It was adequate in terms of the standards of that day. But not so today. Increased demands for greater educational opportunity have come with leaps and bounds. The old buildings have failed to meet the new demands no less certainly than the old curriculum has failed to satisfy conditions of modern life.

Church and religious education plants do not seem to have kept pace with the increased social demands. Except in rare instances, church organizations are endeavoring to attract and hold with nineteenth century facilities for service the members of a society who live in twentieth century surroundings. Only as the church organization, through improved facilities for rendering broader social service, reaches out into the lives of the people of the community, can it hope to combat successfully the undesirable influences that are competing for the interests of people in general and especially of young people. It is with the idea of this greater social service that the standards of the church and religious education plant have been formulated. It is especially true of that part of the score card dealing with community service rooms. Items I to V have long been recognized in some degree of development as essential to the church organization, but the conception is not generally accepted that the church plant should have: a recreation and dining-room, kitchen, library and reading room, women's and mothers' room, club rooms for girls, men, and boys, nurses' and rest-room, day nursery, civic center gymnasium, locker rooms, and game and amusement rooms.

TABLE IX

Seventeen Church and Religious Education Plants of Malden, Massachusetts, Arranged in Order of Rank for Total Scores Allotted on Item VI—Community Service Rooms

Showing distributed scores on the major subdivisions in this item as compared with the total possible score for each subdivision.

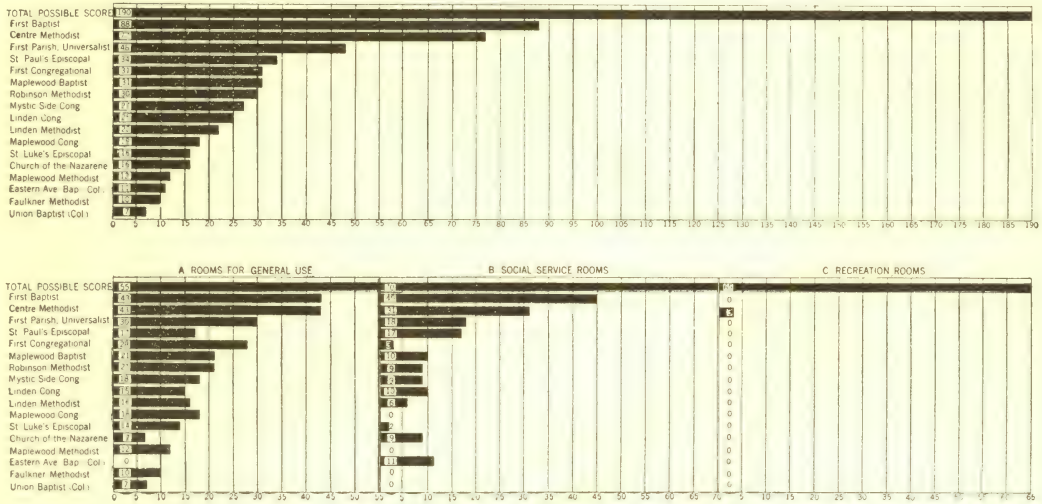
CHURCHES SCORED	Rank on Basis of Scores Allotted on Item VI	**Maximum Possible Score** and Allotted Scores	SUB-ITEM **Maximum Possible Score** and Allotted Scores		
			A Rooms for General Use	B Rooms for Social Service	C Rooms for Recreation and Athletics
		190	**55**	**70**	**65**
First Baptist	1	88	43	45	0
Centre Methodist	2	77	43	31	3
First Parish in Malden, Universalist	3	48	30	18	0
St. Paul's Episcopal	4	34	17	17	0
Maplewood Baptist	5½	31	21	10	0
First Congregational	5½	31	28	3	0
Robinson Methodist	7	30	21	9	0
Mystic Side Congregational	8	27	18	9	0
Linden Congregational	9	25	15	10	0
Linden Methodist	10	22	16	6	0
Maplewood Congregational	11	18	18	0	0
People's Church of the Nazarene	12½	16	7	9	0
St. Luke's Episcopal	12½	16	14	2	0
Maplewood Methodist	14	12	12	0	0
Eastern Avenue Baptist	15	11	0	11	0
Faulkner Methodist	16	10	10	0	0
Union Baptist	17	7	7	0	0
Maximum Possible Score		**190**	**55**	**70**	**65**

CHART VII

SEVENTEEN CHURCH AND RELIGIOUS EDUCATION PLANTS OF MALDEN, MASS.

RANKED IN ORDER OF TOTAL SCORES ALLOTTED ON ITEM VI - COMMUNITY SERVICE ROOMS

THE LOWER CHARTS SHOW THE UPPER CHART DIVIDED ACCORDING TO THE MAJOR SUBDIVISIONS OF THE ITEM - COMMUNITY SERVICE ROOMS



It takes a man of no far vision today to predict that the church organization which does not recognize the validity of the claims of these things in the lives of the people it serves will find its influence decreasing and its opportunities for service seriously limited.

The full details of the standards for "Community Service Rooms" are given on pages 201-4. Table IX and Chart VII summarize the conditions in the seventeen churches, surveyed in the city of Malden with respect to this very important item, as those conditions were interpreted by the judges. The lower charts show the upper chart divided according to the major subdivisions of the item—Community Service Rooms.

It will be noted that in the column of totals not a single church registered a score of 50 per cent. of the maximum possible, and that only two approached 50 per cent. with any degree of closeness. Fourteen of the seventeen churches scored less than 25 per cent. efficient in their provisions for rendering community social service.

A. Rooms for General Use

Under "A. Rooms for General Use," are included such accommodations as recreation and dining room, kitchen, library and reading room. The maximum possible score on this item is 55 points. In Malden the First Baptist and the Centre Methodist each scored 43 points or approximately 80 per cent. of the maximum. Only two other churches, the First Parish in Malden, Universalist, and the First Congregational scored up to 50 per cent. of the maximum; approximately 75 per cent. of the churches fall below 50 per cent. efficiency in facilities for this type of service.

Recreation, Dining Room and Kitchen

As bad as the general situation may seem from the figures given, certain very striking evidences of progress in the desired direction were found almost everywhere. The beginnings have been made by the equipment of rooms for general use in the older plants and the planning of such facilities in the newer buildings. Illustrations 58 and 83, pages 107 and 159, from the First Baptist Church, show the type of dining room and kitchen that should be provided in every church plant. The influence of these two rooms alone in the home lives of the members of this church must be exceedingly great and their added "holding power" to the church even greater. Many of the older, less fortunate churches have made commendable efforts in this line but not with the same degree of excellence. Illustration 41,

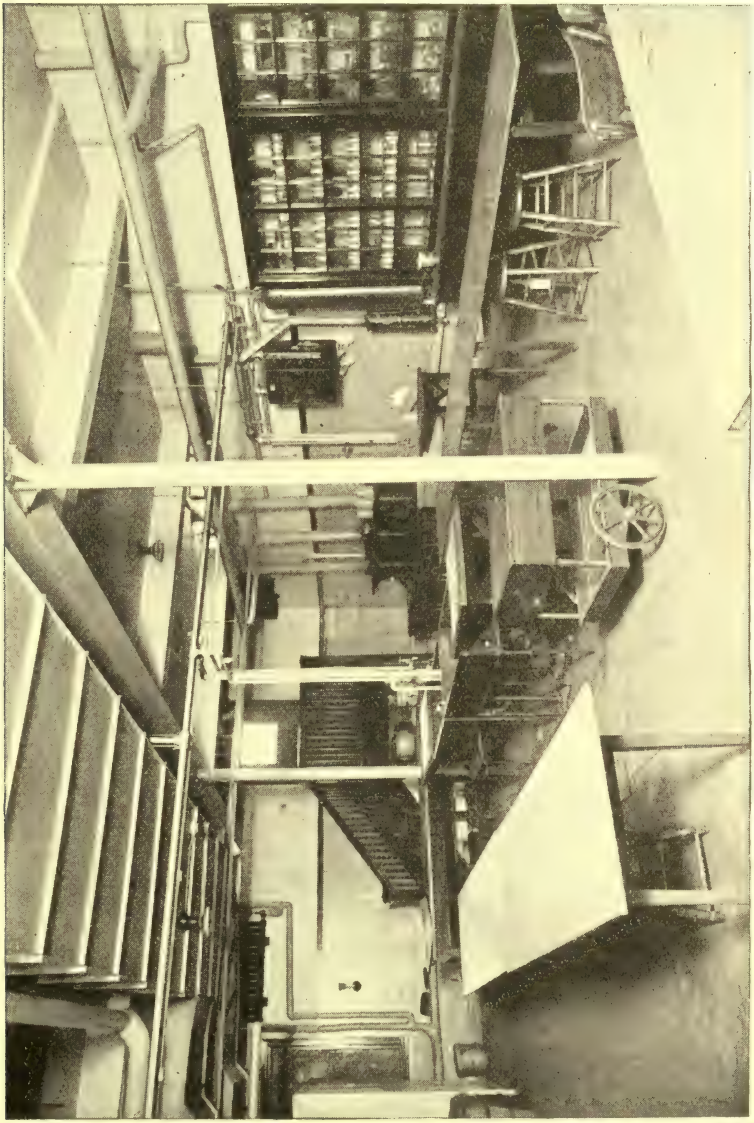


ILLUSTRATION 83. THE WELL APPOINTED KITCHEN OF THE FIRST BAPTIST CHURCH

page 78, shows the kitchen of the Linden Methodist, neat and orderly, but not so well equipped as would be desirable. Illustrations 84, 85, 86 and 61 on pages, 161, 163 and 111, show improvised rooms for the uses described. Improvised and inadequate as they are, they nevertheless stand as evidence of a strong conviction that this type of social service is helpful to church and community alike. Illustrations 61 and 84, pages 111 and 161, show what the church kitchen should not be, and also how such inadequate rooms encourage the collecting of rubbish and refuse. The influence which these kitchens carry over to the homes of the community is not the kind of which we have been speaking. But the fault lies not in the idea of the community service kitchen in the church, but rather in the type of kitchen provided.

Library and Reading Room

It would seem that the library and church reading room would need no argument to justify its existence, but as a matter of fact these facilities were of the most meager sort and almost without exception there was little or no evidence of regular and systematic use of such library facilities as were provided. Except in a few Sunday school class rooms where small collections of attractive and modern books gave evidence of initiative on the part of certain teachers, the collections of musty, mutilated volumes that are shelved or piled in inaccessible, unused places are most unattractive and uninteresting and will never invite the interest of the general church membership. If religious education is an obligation of the church organization, certainly there is no simpler, no more effective way of meeting that obligation in large measure than a well-organized library and reading room with a librarian in charge organizing programs and encouraging its use. People will read good books if they are exposed to them in the right way.

B. Rooms for Social Service

To this group belong the women's and mothers' room, girls' club room, men's club room, boys' club room, nurses' and rest room, day nursery room and civic center. From Table IX and Chart VII, pages 156 and 157, it is evident that but slight progress has been made in Malden toward the realization of adequate facilities for the type of social service indicated above. Out of the 70 possible points only one church was allotted a score of over 50 per cent., and fourteen churches are included in the group that has less than 25 per cent. efficiency in social service facilities. It is interesting to note the relative importance of these accommodations as judged by the frequency of appear-



ILLUSTRATION 84. THE POORLY EQUIPPED KITCHEN OF THE LINDEN CONGREGATIONAL CHURCH



ILLUSTRATION 85. THE SMALL, INADEQUATE KITCHEN OF THE FAULKNER METHODIST CHURCH

ance of each and the total number of points allotted on each for the group of seventeen churches.

Twelve churches received some credit for the women's and mothers' room, and five for the men's room. Some attempt at providing a boys' club room was credited in four churches, and similar recognition was given to girls' club rooms in five churches. Some credit was given to a nurses' and rest room in seven churches, but no credit was awarded to a day nursery and in only one church was a civic center room credited with any points.

Many inferences are possible from these data, but one fact is obvious—that churches are not thought of for men, boys and girls to the same degree as for women and mothers. It is not to be understood that undue emphasis has been placed on women's and mothers' rooms in Malden, for of the total possible score on this item the seventeen churches together was but 35 per cent. of the maximum possible. It only means in a relative sense that, deficient as are the churches in women's, club rooms, they are still more so in respect to club rooms for men, boys and girls.

The First Baptist, the Centre Methodist and the First Parish in Malden, Universalist, had rooms of this type that approached the standards of perfection. Illustration 46, page 85, is of the First Baptist Church. A room of this sort, comfortable and attractive, with a day nursery adjoining, would undoubtedly attract many more mothers into the life and service of the church. It is absolutely essential for the continued growth of the church that the girls and boys may be attracted to it and that they acquire the habit of spending a portion of their time in the church and nearer to its influence.

This can be accomplished only by providing facilities for these young people to use in the way of club rooms, reading rooms, recreations, etc. Club rooms which can serve as the permanent home for such organizations as the Girl Scouts, the Boy Scouts, etc., and which will contain the equipment for the club work and which can be decorated with banners, trophies, etc., have a tremendous "through the week" holding power. All of these rooms will be more effective if the same provision can be made for such a room for the men. In proportion as they become interested and accustomed to using such a room in the church plant, the other members of their family will find it convenient to be there also.

As the use of the church plant as a center for community activities grows it will be necessary to have a nurses' or rest room where any one temporarily indisposed may go and rest. It should of course,

be equipped with "first aid" material and in the larger churches many will have a nurse in charge during hours when many activities are in progress. This individual can easily be called upon to serve in the day nursery when such is maintained. Many mothers could take a more active part in church activities if they could have the use of a day nursery during the given period. One nurse can free the energy of many active, willing church workers.

The presence of a civic center and Americanization room in the church plant would mean the assuming by the church of a responsibility which in the doing will strengthen its own work.

If the church is not interested in this service to its constituents it very frequently becomes the stronghold of the customs and manners of a foreign country and to that extent tends to preserve in the midst of our democracy groups which are unassimilated and often irreconcilable.

C. Rooms for Recreation and Athletics

The ideal which requires that churches should minister to the physical as well as the spiritual well-being of the community has not been accepted in Malden. The maximum possible number of points on this item for a single church is 65. To the seventeen churches, therefore, 1,105 points are due. The sum total of points allotted



ILLUSTRATION 86. THE FAIRLY WELL EQUIPPED, WELL LIGHTED KITCHEN OF THE FIRST PARISH IN MALDEN, UNIVERSALIST

by the judges to the seventeen churches is 3. This meager allotment was credited to the Centre Methodist on a game room. Three points out of a possible 1,105 for the total situation is conclusive evidence that the church organizations have not conceived their work as including any part of the responsibility for the physical life of the community. The church plant which provides an adequate gymnasium has the opportunity of using the strong appeal of such a room as an asset in its own work rather than a liability which has to be counteracted by the church's influence.

Many of our modern games afford excellent opportunities for building character and habituating certain ideals of character which can not be as easily done in any other way. It appears as a lost opportunity for the church to neglect this means of building strong, clean and active minds in strong, clean and active bodies. Provision for sufficient locker space and for adequate, well-kept showers are essential to the success of any athletic program. Not only are they essential in this respect but they are highly desirable as a community service especially in some of the more crowded districts.

A well-directed program of athletic activity in any community will soon be confronted with the problem of providing facilities for increasing numbers of participants. One of the best indoor games, and one which requires a minimum of space and equipment is hand ball. Many provisions can be made for this game against blank walls and under direction and stimulation a large group of people can be cared for. It becomes an easily formed and beneficial habit for business men to meet a certain number of times a week for hand ball and also serves as a splendid means of keeping them in better physical condition.

The attraction of bowling alleys and a well-equipped game room is self evident. The principal thing to be borne in mind with any such equipment is that it must be kept in first class condition. Any game requiring skill in playing it does not attract the number it should if the equipment is in such poor condition that "chance" replaces "skill" in getting results. In the membership of any church there will always be a group who, for one reason or another, have certain varying amounts of time at their disposal. It seems much more desirable to have that leisure time pleasantly and properly spent in some of the community service rooms of the church than in some commercial loafing place where the influence usually is not the kind which will further the spread of ideals which the modern church seeks to promote.

The ideal of a church's responsibility for and opportunity in the various forms of community service is not fully realized and is very inadequately provided for by the churches in Malden. It may safely be prophesied that the next ten years will see a marked change in attitude toward providing for recreation and use of leisure time and a corresponding increased provision by the churches for use of this form of service.

Appendix I

Interchurch World Movement Standards for a City Church and Religious Education Plant*

THESE standards are designed to accompany the score card for a city church and religious education plant. The standards, in order to conform to the outline presented in the score card, have been divided into six major sections as follows: (1) Standards on Site; (2) Standards on Building Placement and Construction; (3) Standards involving all Service Systems; (4) Standards for Church Rooms; (5) Standards for Religious School Rooms, and (6) Standards for Community Service Rooms.

I. STANDARDS INVOLVED IN THE SITE OF A CHURCH-SCHOOL PLANT

A. *Location*

1. Accessibility
   a. Near enough to the business section of the city to profit by the convergence of roads and car lines, if a "downtown" church.
   b. In the direction of the city's growth rather than behind it.
   c. Located centrally with respect to its entire constituency.
2. Environment
   a. Adjoining attractive, clean and well-kept property (trees, lawns, etc.).
   b. Sanitary and healthful—free from malodors.
   c. Remote from fire dangers—not adjacent to large wooden or non-fireproof buildings, gas tanks, or other fire spreading structures.
   d. Quiet—not adjacent to any factory, planing mill or plant employing machinery, or shops such as tinsmiths, auto repair shops, passing street cars or railroad trains. Streets should not be brick or cobblestone.
   e. Not near over-towering buildings, but placed in proper architectural setting on a strategic location.

B. *Nature of Site and its Condition*

1. Drainage and nature of soil
   a. Natural slope preferred, sloping away from building at a minimum slope of 1 inch in 3 feet.
   b. Entire site should be thoroughly tiled with special provision for the basement. Protected from surface water from higher contiguous ground. Nature of soil should determine the depth of the tile.

*Prepared by N. L. Engelhardt and E. S. Evenden.

c. Sandy loam and fertile enough for good lawns and landscape gardening.

d. Playground—quick drying (rapidly drained) with turf or artificial surface of crushed stone or gravel. Natural soil preferred to artificial.

2. Upkeep of Site

a. Entire site should show evidence of proper maintenance. Lawns should be well kept; shrubbery well trimmed; walks clean and in good repair; fences or walls in good state of preservation. Grounds should be free from unsightly ash piles, waste paper, rubbish of any kind and weeds.

C. *Size and Form of Site*

a. Should be large enough and of a shape to allow for the proper placing of building or buildings and for future additions.

b. Should be large enough to provide

(1) In front for ample lawns and shrubbery for outdoor fêtes, pageants and other festivals;

(2) In rear for playgrounds, tennis courts, ball ground, and other athletic facilities to be provided.

c. A plot of from 3 to 10 acres, depending upon the size of the community to be served, is necessary for these activities.

d. Where city congestion is such as to prevent acquisition of standard site, roof garden should be planned for festivals, song services, play and other outdoor activities. Its construction should care for the following elements:

(1) Adequate roof covering, rail protection, shields against wind, rain and snow;

(2) Storage facilities and the extension of all service systems to the roof garden.

(3) The special equipment consisting of tables, chairs, portable stage and piano.

e. Where playground and athletic field are separated from the church site they should not be so distant that the school and gymnasium equipment cannot be used.

II. BUILDING OR BUILDINGS

A. *Placement*

1. Orientation

a. Buildings should be so placed upon the lot that the light exposure will be in order of preference, southeast, east, southwest, or west. Buildings should not have full northern or southern exposure.

b. If the building is a one-story structure, poor orientation may be overcome by means of overhead lighting.

c. The diagonal placement of the building upon its site may be made an esthetic advantage by means of the proper placement of trees and shrubbery.

2. Position on Site

The buildings should be so placed

a. As to secure a maximum of esthetic effect.

b. As to provide for the greatest possible utilization of grounds.

c. As to permit either future additions to present buildings or additional buildings.

B. *Gross Structure of Building or Buildings*

1. Type of Esthetic Balance

a. Architectural—practically all of the types of church building architectures will lend themselves to standardized conditions. The selection of the type desired will depend largely upon the architecture of other large public buildings in the immediate vicinity.

b. A church school plant should in its architecture clearly indicate its purpose.

c. Dignity and beauty are essential characteristics of the gross structure.

d. Building should be architecturally consistent, that is, it should conform throughout to the line forms and movements established by the architectural type after which it is built. Any variations in these should be in harmony with the symmetry and general effects of the building.

e. Expensive and costly ornamentation which does not add to utility should be avoided unless absolutely necessary in order to make the building conform to its type.

f. The building should be planned to harmonize with the surrounding structures. "Harmonize" should be understood to mean not duplication of material or style, but rather an addition to existing buildings of a style not in architectural discord.

2. Material

Churches of granite, stone or marble produce effects of enduringness, massiveness and solidity. These materials are more affected by fire than is vitrified brick or reinforced concrete. Fire-proof materials should be used throughout in all structures of more than one story.

3. Height

a. The church structure should not be more than two stories above the basement. The school structure should conform to this standard except in very congested cities where it may be three stories when strictly fire-proof.

b. The basement should not be used for social or educational purposes when more than three feet below the ground level.

4. Roof

a. Style and shape of roof will be determined by the type of architecture employed for the church building and the purpose for which the roof is used.

b. The roof should be laid with slate, tile or asbestos shingle.
c. The roof should be provided with eaves gutters, drain pipes and guard rails for preventing snow slides.

5. Foundation
   a. The foundation should go deep enough to secure a firm support for the walls, arches or tower in order to prevent settling.
   b. Foundations should be preferably of concrete, reinforced where necessary, or masonry with a wide footing.
   c. Foundations enclosing basement should be made waterproof and dampproof.
6. Walls
   a. All bearing walls should be of steel girder and column construction, hard brick laid in cement mortar, reinforced concrete or masonry. Steel girder and column construction allows freedom in placement of partitions and is more economical to erect. All steel should be thoroughly fireproofed.
   b. Non-bearing walls should be of hollow tile.
   c. Outer walls, if of brick or masonry, should be double or backed with hollow tile with dead air-space.
   d. Outer walls should be furred.
7. Entrances
   a. Main and secondary entrances should be provided both for the church and the school building. The main entrance should not be less than 10 feet to 12 feet wide and should open directly into the main foyer.
   b. Secondary entrances 6 feet to 10 feet wide for double doors, 3 feet or 4 feet wide for single doors, should be placed near the stairways and at the intersections of the main and secondary corridors.
   c. There should be at least one entrance leading directly from the playgrounds to the gymnasium.
   d. There should be separate entrances to the heating room, to the library, to the social rooms or other parts of the building used for club room purposes. It is desirable to have these parts of the building so located that they can be used without opening the entire building. All incased fireproof stairways or other fire escapes should have separate entrances.
   e. It is desirable for the rooms used for day nurseries, beginners or primary classes, to be on the first floor and to have separate entrances.
   f. All entrances should be free from outside obstructions.
   g. Steps
      (1) As few as possible and non-exposed. Inclines where possible.
      (2) Stone or concrete.
      (3) 5-inch riser and 14-inch non-slipping tread.
   h. Vestibules
      (1) 10 feet to 12 feet wide.
      (2) Double swing doors and waterproof floor.

i. Doors
Doors should open outward and be provided with panic bolts, checks and foot stops.

j. Welcome sign and public bulletin
(1) Should be conspicuously located near main entrances.
(2) Easily legible from street during both day and evening.

8. Condition
a. The building should be kept in a condition of constant repair. Woodwork and metal trimmings should be protected against weathering by painting.
b. Any part of the building directly exposed to dust or dirt should be frequently cleaned. Masonry which cracks from freezing should be immediately repaired. Masonry joints exposed to the weather should be repointed in order that the joints between the stone may not become seepage points.

C. Internal Structure of Building or Buildings
1. Stairways
a. Construction
(1) Should be separated from corridors by fire-proof doors in basement and on other floors.
(2) Should be constructed entirely of fire-proof material.
(3) Dimensions should be based on formula that "width of tread plus twice the riser equals twenty-four inches." Width will vary with the width of the corridors and the width of the doors. They should, however, not be less than 4 feet. If more than 5 feet, there should be a dividing rail.
(4) Any landing should have a width equal to the length of the longest tread in the stairs leading to it. Winders should be avoided.
(5) All stairways should be provided with hand rails, preferably of two heights, for children and adults.
b. There should be enough stairways to empty the balcony or second floor in two minutes' time.
c. Lighting provisions for natural as well as artificial light should be made. Switches for electric lights should be near the exits. There should also be gas light on stairways and at exits.
d. Sanitation—Where angles and corners would otherwise occur in stairways construction, the plans should provide for concave surfaces (coves) thus preventing the accumulation of dust, dirt, and germ-carrying filth in places inaccessible to brooms and brushes.
e. No storage room should be permitted under stairways, unless strictly fire-proof.

2. Corridors and foyer
a. Corridors
(1) Location. Determined by the position of the auditorium and special rooms. Should provide ready access to the stairways and permit rapid circulation to every part of the building.

(2) Construction

(a) Material, with exception of that for the floor surface, should be fire-proof. The floor surface should be durable and noiseless. Cement overlaid with patent process or battleship linoleum is most desirable. Hard maple or hard pine is the best wood.

(b) Should be wide enough to prevent congestion; with the main corridor, wide enough for decoration.

(c) All classroom and special room doors should open into corridors.

(d) Lighting should be natural and adequate.

(e) Sanitary coves free from dust catchers.

(f) Should be free from obstructions which prevent easy egress.

(3) Provision should be made for using the influence of beautiful surroundings, pictures, busts, friezes, and the like.

b. Foyer

(1) Should be located directly off main entrance and should have principal corridors and stairways leading from it.

(2) Should be large enough to permit distribution of the people to different parts of the building without confusion.

(3) Should be large enough to permit "exchange of greetings" on the way out from meetings.

(4) Should be equipped with umbrella racks and door mats.

3. Basement

Depth below grade 3 feet, except for rooms not used for educational and social purposes, such as boiler rooms, ventilating plant, and coal pits, which may be lower and at a depth which will permit the direct dumping of coal from driveways. Ducts for the distribution of air may be enclosed in moisture proof passages underneath the floor. This will keep the height of the rooms on the ground floor down to 12 feet, except where the gymnasium is on the basement floor. If 25 per cent. of the ceiling is covered with ducts, add their height to the height of the rooms.

4. Decorative attractiveness

a. Care should be taken to have the interior decorations of the church as productive of a worshipful attitude as is possible. Some of the characteristics which produce this effect should also be given to the church school rooms. Woodwork, dado, walls, ceiling, windows, furniture, shades, finish, and fixtures should be in color harmony.

b. Care should be taken to secure restful harmony of proportions, and particularly of colors. Balance in color relation produces a restful effect and leaves the mind at ease for contemplation. Perfect color balance is found in the middle tone value of pure neutral, which is a gray made by mixing black and white in equal quantities. This balanced tone, or tones closely related to it, should be used as often as possible. Color interest is secured by using very neutral qualities of any hue,

such as blue, green, red, purple, yellow, etc. To produce a very neutral hue use the middle value of gray and add a small quantity of color pigment. Brilliant hues in any value, light, middle or dark are invariably irritating and distracting. The direct facing of light or sitting in crosslights should be made impossible.

c. The interior structure of church buildings should, as far as possible, symbolize many of the essential elements of religious life, such as simplicity, genuineness, cleanliness, permanence, modesty, stability, etc. Over-ornateness should be avoided.

III. SERVICE SYSTEMS

A. *Heating and Ventilation*

Systems of heating and ventilation are here classified and designated by a compound word for each system. The word preceding the hyphen indicates the method of *Heating* and the word following the hyphen indicates the system of air supply, *Ventilation.*
Where the word "direct" is applied to a heating system it means that the heat is imparted directly to the room by means of radiating surfaces or heat sources located within the room heated. Steam and hot water radiators and electric heaters are appliances classified under this heading.
Where the word "indirect" is used it means that heat is imparted indirectly to the room by air initially warmed by radiating surfaces or heat sources located outside of the room heated and the warm air is conveyed therefrom to the room through suitable air ducts or flues. Hot air furnaces and standard steam and hot water indirect radiators are appliances classified under this heading
Where the word "gravity" is applied to a ventilation system it means that the required air movement is maintained by the force of gravity only, either with or without acceleration by means of an added source of heat. The capacity of a "gravity" system should be determined upon the basis of a difference of indoor and outdoor temperature of forty (40) degrees Fahrenheit or less.
Where the word "mechanical" is used it means that the required air movement is maintained by the use of blowers, fans or similar mechanically operated appliances.

1. Kind

a. "Furnace-Gravity" system includes hot air furnaces. These are located in the basement and below the room or rooms to be heated. They take the air from out-of-doors and deliver warm air to the rooms without the use of mechanical devices. Ducts or flues of proper size are provided. The air in sufficient volume to heat and ventilate the rooms is warmed to a temperature adequate to maintain the requirements set up in these standards. In addition, there is provided a corresponding gravity exhaust system, which withdraws vitiated air from the rooms and discharges it out-of-doors. The discharge may be affected with or without acceleration by means of an added source of heat.

b. "Direct-Natural" system means an equipment including direct radiators under the windows for heating the room and properly designed deflecting ventilators for the windows. These ventilators will allow the natural admission of the air from out-of-doors. A system of exhaust ventilation for the removal of vitiated air in the required volume, through specially located outlets in the room, should be provided. Desirability is based on the following rules:

(1) This system should not be used in large audience rooms.

(2) It should be used only in connection with a steam atmospheric vapor system of heating with graduating control valves on the radiators.

(3) The radiators should extend the full width of all windows. All windows should be used for the admission of air to the room. Radiators should contain not less than twice the radiating surface otherwise necessary to maintain the required room temperature.

(4) Window deflecting ventilators, not less than twelve (12) inches high should be placed on the sills and extend the full width of all windows. They should be of approved construction, insuring effective deflection and diffusion of the air without objectionable drafts.

(5) Vitiated air should be taken through one or more openings located near the floor of the room and preferably in the wall opposite the windows. Each opening should connect with an independent exhaust flue extending through the roof. The combined areas of such flues should be not less than one (1) square foot for each five occupants of the room. Each flue should be provided with a shut-off damper. For a mechanical exhaust, or for a gravity accelerated exhaust system, one such opening and flue for each room may be provided. This single opening should be located as above required.

c. "Direct-Gravity" system means an equipment, including:

(1) Direct radiators located within the room to be heated.

(2) Indirect radiators, in suitable casings, located below the rooms to be ventilated. The air is taken from out-of-doors over the indirect radiators and delivered to the rooms in sufficient volume and at approximately the required room temperature, without the direct use of mechanical means. Ducts and flues of proper size are used for the delivery of air. Approved mechanical means are provided for auxiliary use when necessary. A corresponding gravity exhaust system, which withdraws the vitiated air from the rooms and discharges it out-of-doors, is installed. This exhaust system may or may not be installed with provision for acceleration by means of an added source of heat.

d. "Direct-Mechanical" system includes the following:

(1) The "split system," providing both direct radiators located within the rooms to be heated, and a forced air supply for rooms requiring ventilation. The forced air supply system should consist of a mechanically operated fan or blower, which takes the air from out-of-doors and draws or forces it through suitably enclosed air-heaters. At these heaters it should be warmed to approximately room temperature and thence delivered to the rooms through properly proportioned ducts or flues.

(2) The "unit system." Such a unit system includes in each room one or more ventilating units, which are located under the windows and which contain electrically operated twin multiblade fans, drawing the air directly from out-of-doors and delivering it to the room in the required volume. The ventilating unit also contains extended surface steam radiators for heating the air to the required temperature.

In connection with either of the above systems a corresponding mechanical or gravity exhaust system is used. This exhaust system withdraws the vitiated air directly from the rooms and discharges it out-of-doors. The discharge may be with or without acceleration by means of an added source of heat.

e. The "Indirect-Mechanical" system includes no direct radiators within the schoolrooms, but should provide for both the heating and ventilation of schoolrooms to the required standard by means of a forced system of air supply. A mechanically operated fan or blower is employed which takes the air from out-of-doors and draws or forces it through suitable enclosed steam or hot water indirect radiators or through hot air furnaces. When thus warmed to a sufficient temperature, the air is delivered to the classrooms through properly proportioned ducts or flues. A corresponding mechanical or gravity exhaust system for rooms requiring exhaust ventilation is used. This system provides for the withdrawal of the vitiated air from the rooms and its discharge out-of-doors. This system may be installed with or without acceleration by means of an added source of heat. The indirect mechanical system requires, in addition, direct radiators sufficient to heat all rooms where water is provided and also direct radiators at all entrances.

f. "Direct-Indirect" Ventilation

The so-called "direct-indirect" system of heating and ventilation is not acceptable. By "direct-indirect" is meant the introduction of air at the base, or upon any part, of a "direct" radiator without the use of a fan as provided in the "unit system."

2. Installation

a. Hot air furnaces should be of approved design, having fire pot and radiator entirely surrounded by insulated sheet metal casing or masonry enclosure. This enclosure should be so arranged that no perceptible resistance is encountered by the air in passing to the warm air leaders. Should be provided with approved water evaporating pan located within the casing, preferably near the top.

Should be computed for size on the basis of:

(1) Total heat necessary for heating the building and warming the air for ventilation to standard temperature.
(2) The heating value of fuel.
(3) The rate of combustion.
(4) The combined efficiency of furnace and grate. The heating surfaces and grate area of the furnace should be such that its rated and required capacity may be obtained without forcing, under any conditions of service.

b. Steam and Hot-water Boilers

Should be constructed and equipped in accordance with the boiler rules of the American Society of Mechanical Engineers. Should be installed with sufficient space on all sides to allow of proper firing, adequate cleaning and ready access to all parts for necessary repairs.

Should be computed for size on the basis of:

(1) The total connected heat-radiating surface, including direct and indirect radiation, water-heating coils, mains and risers, each reduced to its equivalent of direct radiating surface.

(2) The available fuel charge for any boiler should be sufficient to maintain the boiler rating for not less than eight (8) hours without replenishing when connected to not more than four thousand (4,000) square feet of equivalent direct steam radiating surface, or to not more than six thousand (6,000) square feet of equivalent direct water radiation. For larger connected loads the fuel charge should be sufficient to maintain the boiler rating for not less than six (6) hours without replenishing.

c. Direct Radiators

Should be constructed of cast iron, having smooth surfaces. Coils should be constructed of wrought iron pipe and cast iron coil fittings.

Should be located under windows, wherever possible, except as provided below. When so placed, radiators should not extend above the window stool. They should not be located under the blackboards of classrooms. In stair halls which are used as fire exits, direct radiators should be located at a distance of more than six (6) feet from the floor, the stair treads, or the stair landings.

Should be located not less than two (2) feet above the working water level in the boiler, if used on a steam gravity-return system.

When used without a system of indirectly warmed air supply, direct radiators should have been computed for size on the basis of the total heat loss, under the required temperature conditions, through all exposed glass, wall, roof and floor surfaces, including one room air change per hour, or equivalent as allowance for leakage.

When used in conjunction with a system of indirectly warmed air supply, direct radiators should be computed on the same basis as required above but excluding allowance for air leakage. Such leakage should be provided for in warmed air admitted for ventilation. Where a unit system is used, direct radiation, in addition to the ventilating units, should be installed sufficient to heat the rooms as required above, unless the units are of ample size and so arranged to allow direct heating of the room without the use of fans.

When placed in enclosures, direct radiators should be increased in size over the above requirements by not less than thirty (30) per cent. Six (6) square inches of register area at top of radiators and four (4) square inches of register area at bottom of radiator, per square foot of radiation should be provided. As a substitute, a grille over the entire front of the radiator, extending above the top of the radiator, may be used. Enclosures should be lined with galvanized iron and asbestos sheets. Easy access to valves should be provided.

d. Indirect Radiators

Should be constructed preferably of cast iron having extended surface, or may be made of wrought iron or steel pipe with suitable cast iron headers.

Should be encased in sheet metal, or other fireproof enclosures, to confine the flow of the air close to, and in contact with the radiator sections.

Should be computed for size on the basis of:

(1) Required air volume.
(2) Required temperature rise.
(3) Free air space or efficiency of the radiator.
(4) Air velocity.

The velocity through the radiator should not exceed the necessary air velocity in the connecting warm air flues, when used in a gravity air supply system. The velocity through the radiator should not exceed twelve hundred (1,200) feet per minute when used as a central air tempering heater in a mechanical air supply system.

e. Accelerating Heaters

May be steam radiators, either hung in separate exhaust flues not more than twelve (12) inches above the highest opening in the flue, or placed in fireproof enclosures in roof space at the junction of several exhaust flues. When used in connection with a furnace gravity system, accelerating heaters may be stack heaters located at the base of the central exhaust flues. The use of hot water radiators as accelerating heaters is not desirable.

Should be computed for size on the basis of not less than two (2) square feet of steam-heated surface for each one hundred (100) cubic feet of air per minute to be exhausted through the flues.

f. Piping

Should be of ample capacity and properly arranged for the system of distribution used. Should have proper main control valves located at or near the boiler. Every stack of indirect radiation should be valved to allow of separate control. For large heating installations, the piping for direct radiation and indirect radiation should be arranged on separate systems. Each system should be properly valved to allow of separate operation. Piping installed under floors, in unexcavated spaces, or in earth, should be carefully protected against corrosion by being suitably painted and by being enclosed in approved tile or masonry conduits or trenches. Piping laid in cinder or concrete floor fill or construction should be protected by suitable heavy steel metal arches, or equivalent device. Ample space should be allowed for expansion and contraction of all concealed piping.

g. Pipe and Boiler Coverings

Should be made of approved non-conducting heat insulating materials in the form of sectional coverings for pipes carrying steam or hot water and plastic felting for pipe fittings and other hot surfaces.

Should be used on all main distribution piping and branches and on all piping inaccessibly concealed in the building construction or installed in locations liable to exposure to freezing temperature.

Should be applied to steam and hot water boilers and to furnaces when such heating appliances are not otherwise enclosed in masonry or specially insulated casings. Coverings should also be applied to all steam and hot water piping in boiler rooms located under occupied rooms.

h. Flues and Ducts

All ducts and flues used for conveying air for heating and ventilation should be constructed throughout of fireproof materials, having smooth interior surfaces and rendered tight against air leakage.

i. Warm Air Riser Flues

Should be individual flues for respective rooms served. The use of a common flue serving more than one room is not acceptable.

Should be computed for area when used in a gravity system of air supply, on the basis of maximum allowable air velocity, as follows:

(1) For rooms on the first floor (above the heaters) 250 feet per minute.

(2) For rooms on the second floor (above the heaters) 300 feet per minute.

Should be computed for area when used in a mechanical system of air supply, on the basis of maximum allowable velocity of four hundred (400) feet per minute.

j. Exhaust Air Riser Flues

Should be individual flues for rooms served with the exception that a common flue serving more than one room, other than rooms for assembly purposes, may be used, provided every room exhaust connection thereto is supplied with an approved automatic fire damper.

Should be computed for area, when used in a gravity system of exhaust ventilation, on the basis of maximum allowable air velocity, as follows:

For flues 15 feet high or less, 200 feet per minute.
For flues 15 to 30 feet high, 250 feet per minute.
For flues 30 to 40 feet high, 300 feet per minute.
For flues 40 to 50 feet high, 350 feet per minute.

Should be computed for area, when used in a mechanical system of exhaust ventilation, on the basis of maximum allowable velocity of:

(1) Four hundred (400) feet per minute for individual flues.

(2) Six hundred (600) feet per minute of over four (4) square feet area common to two or more rooms.

Should be carried through the roof, either as individual flues, or after being joined to a common flue at or near the roof level. Exhaust air riser flues may be connected by a system

of lateral ducts to exhaust fans, centralized roof ventilator central accelerating chambers, belfries, steeples, or equivalent devices. In no case should exhaust flues discharge into open attic spaces.

Where carried through the roof, exhaust air riser flues should extend to, or above the level of any adjacent copings or other raised portions of the roof. In all cases such extensions should be not less than three (3) feet above the roof.

Exhaust flues should be provided at top with approved caps, ventilator heads, or equivalent devices, to exclude the weather. Such devices should have on at least two opposite sides a free area of opening equal to not less than the area of the flue.

k. Lateral Ducts

Should be computed for area with reasonable reference to the velocity of the air carried in the riser flues to which they connect. The maximum allowable velocity in any lateral duct should be as follows:

(1) For a gravity system four hundred (400) feet per minute.

(2) For mechanical system, using individual lateral ducts, eight hundred (800) feet per minute.

(3) For a mechanical system using lateral trunk ducts, twelve hundred (1,200) feet per minute.

l. Smoke Flue

(1) A separate smoke flue should be provided for the heating furnace or boiler. It should be constructed of fire-resisting materials throughout, having smooth interior surface. The flue, if unlined, should be constructed with brick walls not less than twelve (12) inches thick. If lined with tile the brick walls should be not less than eight (8) inches thick. The smoke flue may consist of a steel stack enclosed by brick walls not less than twelve (12) inches thick. The smoke flue should extend not less than two (2) feet above the highest point of the roof or an equal distance above any roof copings.

(2) The smoke flue should be computed for minimum area in square feet for round or square flue based upon the area of the boiler or furnace grate in square feet divided by the square root of the total flue height in feet above the grate level, when large size anthracite and bituminous lump coal, oil or gas is used as fuel. The area should be increased by twenty-five (25) per cent. when small size anthracite or run-of-mine bituminous coal is used. For rectangular flue the relation of the sides should be not less than in the ratio of one (1) to two (2).

m. Room Openings for Ventilation

Fresh air inlets, should be located:

(1) On an interior wall with bottom of opening approximately eight (8) feet above the floor wherever possible; or

(2) In or near the ceiling where installation conditions necessitate such location.

Exhaust air outlets should be located on an interior wall and preferably in the same wall with the fresh air inlet. Such outlets should be at or near the floor in all rooms provided directly with gravity or mechanical air supply. In rooms not provided with gravity or mechanical air supply the exhaust air room outlets should be located in or near the ceiling and preferably at point most remote from the window.

n. For toilet, locker, shower or coat rooms having only an indirect means for heating, the warm air inlets may be located near the floor, provided the vitiated air is withdrawn from such rooms through outlets located in or near the ceiling.

o. For a moving-picture booth the air exhaust outlet should be located in or near the ceiling and should connect to a special fire-proof duct or flue carried to a proper place of discharge out-of-doors. The clear area of this duct or flue should be based on not less than one and three-fifths (1⅗) square inches for each cubic foot of air to be exhausted. In addition the flue should be provided with an adjustable damper made operative from the booth and equipped with an appliance containing a fusible link, or equivalent device to insure the releasing and wide opening of the damper in case of fire.

p. Registers and Grilles

Should be approved cast iron, cut steel, or woven wire in wrought iron frames. They should have free air spaces in the face equal to not less than seventy (70) per cent. of the gross area of openings in which they are placed.

Should be furnished for all air supply room openings. They may be omitted for air exhaust room openings, provided suitable shut-off dampers are installed in the connecting flues or ducts. When used for openings connecting directly with vertical flues, they should have a height equal to not less than the depth of the flue, and preferably twenty-five (25) per cent. greater. Registers and grilles should be computed for net area on the basis of

(1) A maximum allowable velocity of three hundred (300) feet per minute for air supply registers when located fifteen (15) feet or less above the floor.

(2) A maximum allowable velocity of four hundred (400) feet per minute for air exhaust registers and for air supply registers when located more than fifteen (15) feet above the floor. The use of floor registers or grilles is not desirable.

q. Dampers

Should be provided with approved operating, adjusting or clamping devices as required for the service intended. When dampers are located in inaccessible positions such devices should be extended to accessible points.

Should have approved means of indicating their open or closed position. When placed in locations remote from the room openings served, they should be plainly marked for identification.

Shut-off dampers, or equivalent devices should be provided

at or near all points where fresh air is admitted to or vitiated air discharged from the building. They should be so arranged that such air passages may be closed when not in use. Such dampers should be capable of being set to regulate the air velocity.

Volume dampers should be provided in all air supply and air exhaust ducts or flues so arranged as to allow of an equitable adjustment and distribution of the air through the room openings.

Mixing dampers, when not automatically operated should be provided with suitable chains, pulleys, counterweights, etc., arranged for hand operation from the rooms they serve.

Automatic fire dampers should be provided in all ducts passing through a fire wall, and in all room-opening connections into a vertical flue which serves more than one room. Such dampers should be controlled by a fusible link, or equivalent device, to insure the releasing and closing of the fire damper in case of fire in such ducts or flues.

r. Deflectors and Diffusers

Should be provided for air supply room inlets whenever the location of the air inlet is such as would otherwise produce objectionable drafts or inefficient air distribution. Such deflectors and diffusers should be of approved construction and adjustable. They may be placed behind or at the opening of the register or grille or may replace such register or grille.

s. Recirculation of Air

Return ducts, providing for recirculating air should be permitted only as a means of pre-heating. Such ducts should not be used when the building is occupied, unless the circulated air is first passed through an approved air washer. When this is done, provision should be made for the introduction of not less than twenty-five (25) per cent. of outdoor air to be mixed with the washed air.

3. Air Supply and Exhaust

a. The ventilation system should be of ample capacity and should be so installed as to supply to every room occupant during the entire period of occupancy the following minimum amounts of clean, pure, warmed outdoor air:

(1) Thirty (30) cubic feet per minute in all rooms used for regular or special class study or recitation.

(2) Fifteen (15) cubic feet per minute in all rooms used exclusively for assembly purposes.

The number of occupants for each room should be assumed to mean the seating capacity on the basis for each individual of not more than eighteen (18) square feet of floor area for classrooms and seven (7) square feet of floor area for auditoriums, when such rooms are used exclusively for assembly purposes.

b. When number of occupants cannot be determined in this manner, the following rules should govern: Eight (8) air changes per hour may be substituted in lieu of thirty (30)

cubic feet per minute per occupant for rooms used for class purposes. Two and one-half (2½) cubic feet of air per minute per square foot of floor area for assembly rooms. A minimum of four (4) air changes per hour for all other rooms requiring ventilation.

c. Every room having air supply ventilation should be provided also with exhaust ventilation. The volume of air exhausted should be at least equal to the volume of air supplied in each case. In toilet rooms, the air exhausted should exceed the air supplied, so that no pressure may be produced in these rooms.

d. Every coat room adjoining a school room should be provided with exhaust ventilation. School room air may be wholly or partly exhausted through the adjoining coat room.

e. Every sanitary and toilet room having more than one water closet or urinal fixture should be provided with air exhaust ventilation equal in volume to not less than eight (8) air changes per hour. The ducts or flues for such ventilation should be independent of, and separated from, any other part of the ventilating system. The movement of the air in such ducts or flues should be positively maintained, either by means of accelerating heaters in exhaust flues extending through the roof or by an exhaust fan or other equivalent device. Toilet rooms may be ventilated through utility chambers provided behind the water closets or urinal stalls. In such installations each water closet stall should be vented and provided with a grille of not less than thirty-six (36) square inches area located above (12) inches from the floor.

f. A system of air supply and exhaust ventilation should be provided for gymnasiums, natatoriums, shower and locker rooms. It is not necessary where the area of movable windows communicating directly with outside air is at least equal to one-sixth of the floor area of the room. In all other cases air supply and exhaust ventilation should be provided sufficent to maintain not less than six (6) air changes per hour in each such room.

g. Where moving-picture machines are installed the enclosures or booths for such machines should be constructed of fire-proof materials and should be provided with approved independent means of air exhaust ventilation having sufficient capacity to remove at all times not less than sixty (60) cubic feet of air per minute for each machine.

h. Fresh Air Intakes

The fresh air supply for ventilation should be taken from an uncontaminated source, preferably from above the roof, or at a point at least fifteen (15) feet above the grade level. The air supplied should be free from dust or other impurities.

When taken from above the roof inlets should not be located within twenty-five (25) feet of toilet vents or chimney. Openings should be provided on side away from such toilet vents or chimney.

Should have openings protected with suitable wire screen to keep out birds, vermin and debris. Approved louvers or doors should be provided to keep out the weather when the ventilation system is not in use.

Should be computed for free area of opening based on

(1) A maximum allowable air velocity of four hundred (400) feet per minute for a gravity system.

(2) A maximum allowable air velocity of one thousand (1,000) feet per minute for a mechanical system.

Fresh air chambers should be clean at all times and should not be used for storage purposes.

i. Air Filters

(1) When used for removing dust or other solid impurities from the air supplied for ventilation, air filters may be cloth equipment in the form of screens or bags and so arranged as to allow easy cleaning and renewal.

(2) When cloth is used as a filtering material the net filtering area should be computed on the basis of

(a) A maximum allowable velocity of twenty (20) feet per minute for a gravity system.

(b) A maximum allowable velocity of forty (40) feet per minute for a mechanical system.

j. Air Washers and Humidifiers

(1) Air washers are preferred to air filters. Air washers should be equipped with an automatic means for maintaining a relative humidity within rooms between the limits of forty and sixty per cent.

(2) Air washers should have cross-sectional areas based on a maximum allowable velocity of two hundred and fifty (250) feet per minute for a gravity system and five hundred (500) feet per minute for a mechanical system.

4. Fans and Motors

Fans should be selected for type and capacity on the basis of the relations obtaining between the resistance to be overcome, the volume of air to be delivered and the speed of operation. They should be so designed, constructed, and mounted in connection with electric motors or other approved motive power, that they will operate quietly and without vibration, with a velocity of wheel at the periphery not exceeding thirty-six hundred (3,600) feet per minute and a velocity of air through the outlet not exceeding two thousand (2,000) feet per minute for housed fans.

5. Distribution

a. The heating system should be of ample capacity and so installed as to insure uniform temperature being maintained in occupied rooms when the outdoor temperature is zero degrees Fahrenheit, with a variation not exceeding three (3) degrees Fahrenheit as measured on a plane three (3) feet above the floor as follows:

A maximum of seventy (70) degrees Fahrenheit and a minimum of sixty-seven (67) degrees Fahrenheit in all rooms used for class or assembly purposes. A maximum of seventy (70) degrees Fahrenheit and a minimum of sixty-five (65) degrees Fahrenheit in all cloak, sanitary and toilet rooms, corridors, passages and stair halls.

A maximum of eighty (80) degrees Fahrenheit and a minimum of seventy-five (75) degrees Fahrenheit in all shower rooms and natatoriums.

A maximum of sixty-five (65) degrees Fahrenheit and a minimum of sixty (60) degrees Fahrenheit in the gymnasium and game rooms.

All rooms or spaces used for any purpose should be heated. The capacity of the plant should be such that the maximum temperature requirements as above stated may be maintained throughout the building at all times of occupancy.

All rooms not above listed in which the occupants remain at rest should be classed under the sixty-seven (67) degree minimum. Rooms intermittently used for other than social, class or assembly purposes should be classed under the sixty-five (65) degree minimum. Rooms used for hard exercise or play should be classed under the sixty (60) degree minimum.

b. Special Provisions. In audience rooms the air may be introduced through the ceiling and exhausted at the floor line by means of "mushroom" ventilators located under the seats. Such a system should be capable also of reversal of the air currents from the "downward" to the "upward" system of air circulation for use in summer.

6. Temperature Control

Automatic temperature regulation should be provided for controlling and maintaining the minimum temperature requirements. Such a system should be provided in all principal rooms occupied. The system should be applied to all direct radiators (if used) within the rooms and to all indirect radiators or mixing dampers where the system of heating and ventilation used makes it possible.

B. *Fire Protection System*

1. Apparatus

Automatic sprinkler systems with pressure heads located in the proportion of one to about 100 square feet of floor area should be located in rooms of possible danger source; or standard stand-pipe system with no part of building more than 75 feet distant from nearest hose outlet, 2½-inch hose—hose racks and valves exposed in corridors; gravity tank on roof where insufficient water pressure is provided. One fire extinguisher to every 5,000 square feet of floor area. Fire-alarm stations on each floor in plain sight. The latter should be connected with city fire department.

2. Fireproofness

The desirable standard is a building constructed of fire-proof materials which offer a maximum of resistance to fire. The most stringent requirements of all fire prevention laws should be observed.

3. Fire Escapes

Enclosed fireproof stairwells are required in all buildings of two stories or more. Exterior fire escapes cannot be considered an adequate substitute for such stairwells, though they are recommended where no other provision has or can be made.

4. Electrical Wiring

   Should be installed in accordance with the latest rules of the National Board of Fire Underwriters. These rules concern the nature and place of intake, insulation, number and kind of outlets, location of switches, meter, cutout and cabinets.

5. Fire Doors

   Self-closing fire doors at all places of probable danger, especially about heating plant; fire glass windows should be below or should overlook fire escapes.

6. Electric Lights and Signs

   Red globe exit lights and hall arrows for fire exits where necessary. The letters on signs should be of plain block type not less than four inches in height.

C. *Cleaning System*

1. Kind

   Vacuum systems preferable.

2. Installation

   Permanent piping so that every part of building is not more than fifty feet from a hose outlet. Hose should be 1¼ inches in diameter stiffened with spiral wire and 50-75 feet long. Discharge into furnace. If there is no vacuum system, adequacy of equipment should be considered. This should include a sufficiency of the following materials: floor brushes, dust cloths, mops, mop-wringers, sweeping compound, carpet-sweepers and the like. Built-in waste chutes are desirable in the construction of any building.

3. Efficiency

   Should be judged by general cleanliness of floors, walls, equipment, windows, lighting fixtures, storerooms, basement and toilet rooms. Basements piled with rubbish and discarded equipment, storerooms littered with papers and other inflammable materials and kitchens with rusty and dirt-covered equipment are indications of exceedingly low efficiency.

D. *Artificial Lighting System*

1. Gas and Electricity

   Gas for stairways, corridors, auditorium, and fire exits. Electricity for the entire building

2. Outlets and Fixtures

   a. Outlets placed at all points of constant need, such as pulpit, organ, choir gallery, orchestra, stage, corridors, etc., with audience rooms amply provided.

   b. Each class room should be equipped. Nine outlets for classrooms 24 x 32. Six outlets for classrooms 20 x 24.

   c. Outlets in corridors should be 20 to 25 feet apart. Fixtures should be installed in each vestibule.

   d. Stage of School Assembly Auditorium

      (1) Combination of regular (foots and borders) and modern overhead direct system with units in form of movable olivettes, nitrogen lamps, adjustable spots and baby spots.

(2) Switchboard. One of the latest approved design, including dimmers. Should be placed at right of stage in such position that it will not interfere with any type of proscenium arch.

(3) Sunken trough with adjustable floor covering for footlights.

(4) Music stands should be equipped with a light of one or two candle power so shaded that all light will be shut off from line of vision of audience and will not interfere with any general or special lighting scheme.

e. Church Auditorium

(1) Pulpit and console lights on separate switches from auditorium lights.

(2) Special movable choir lights (½ candle power) to be suspended over singers in front seats (auditorium) during stereopticon song service, thus allowing use of hymnals, octavo or oratorio scores in darkened church.

f. All fixtures of each room should harmonize with other decorations and equipment. Simplicity, yet appropriateness should be the end sought.

g. Switch Controls

(1) Switches near entrances; each cluster with an individual switch where need so dictates. Original installation of a maximum of switches should tend to lower maintenance costs.

(2) Switchboard, equipped with lock and key, and provided with individual switches for purpose of controlling all lights on any floor should be placed at most convenient exit point in the building.

h. Stereopticon and Motion Picture Wiring Standards

(1) In audience rooms utilized for moving-picture or stereopticon purposes duplicate switch should place artificial lighting under operators' control.

(2) Wall or base plugs for stereopticons should be provided in classrooms.

(3) Permanent wired signal light from speaker's stand to operator of stereopticon.

3. Method and Illumination

a. Semi-indirect or indirect system.

b. Standard illumination

(1) For classrooms, study and library rooms, 9-foot candles at each desk without objectionable glare or shadows.

(2) For auditorium or assembly, 3-foot candles at each pew or audience chair.

c. Source of light should be located out of direct line of vision from any place in audience chambers or balconies.

d. Ample overhead lighting for choir gallery which may be dimmed during sermon or address.

e. Visualization equipment for church auditorium
   (1) Ordinary flood lights operated from side galleries.
   (2) Auditorium lighted in sections with dimmers.
   (3) Facilities for illuminating special art windows by outside lighting shining through into semi-darkened church.

E. *Water Supply System*

1. Drinking Fountains

Automatic bubbling fountains, the apparatus of which prevents the users from touching mouth or lips to the metal should be provided in reasonable numbers. The standard of one fountain for each 75 to 100 children should be observed in the school, Fountains are preferably wall-attached and placed at varied heights. Located in corridors of community house and school house. Easy of access to classrooms, playrooms, gymnasium. playground and to dressing rooms of stage.

2. Washing Provisions

Washbowls should be provided in all toilets and adapted to the heights of children. They should also be located in janitor's room and in kitchens and workrooms. Sinks should be located in kitchens and boiler rooms. Slop-sinks are essential in janitors' closets on each floor.

Soap dispensers, ready for use and a sanitary towel system are required for each sink and washbowl.

3. Hot and Cold Water

Hot and cold water should be provided at all washbowls and sinks. The standard hot water equipment provides hot water instantaneously on demand.

F. *Toilet System*

1. Distribution, Location and Accessibility

The majority of all toilets should be placed in basement, or on the ground floor, but at least one seat for each sex should be provided for emergency on each floor. Conveniently placed with reference to stairways and corridors and readily accessible to large audience rooms. Offices, teachers' rooms, auditoriums, mothers' rest rooms, gymnasium dressing rooms and janitor's quarters should be provided with toilet facilities. Separate toilets convenient to kindergarten classroom. Toilets should be easily accessible to dressing rooms off auditoriums or assembly rooms.

2. Fixtures

a. Seats
Porcelain seats of open type with individual automatic flush are standard. Seats should be enclosed in individual booths with light swinging doors. Each booth should have its toilet paper rack and be equipped with toilet paper. Seats should vary in height so that young children may be accommodated.

b. Urinals
Sides and backs of material which is non-absorbent and easily cleaned. Individual urinal stalls sunk to floor level preferable. Individual sanitary flush attached to each stall.

3. Adequacy and Arrangement

Placing of seats and urinals should be such as to avoid obstruction of light. Should be arranged along walls in single rows. Urinals at point nearest door, seats farthest from the door. Care should be taken to provide a sufficient number of seats and urinals. For the toilet equipment of the school the following rule should be observed:

One seat for each classroom or for each 30 girls and one-half seat and one urinal per classroom or for each 30 boys.

4. Seclusion

There should be non-communicating, sound-proof walls between adjoining rooms provided for the two sexes. Entrance to toilet rooms properly screened. Partitions and swing doors for each seat. Toilet rooms should be structural units from which no sound emanates to remainder of building.

5. Sanitation

Separate stack, duct and fan for ventilating purposes. All plumbing should be exposed. Plumbing utility chamber at rear of all rows of seats. Walls and floors should be non-absorbent, non-corrosive and damp-proof. Tile or moisture-proof cement overlaid with hard asphaltum is most desirable floor. Wainscot, same material as stall partitions or white tile. Walls, faced with glazed brick, absolutely white. Ceiling sound-proof and odor-proof.

G. *Other Service System*

1. Clocks and Signal System

a. Clocks

One for each classroom, for each social room and one in back of auditorium and school assembly room; in church foyer and main vestibule of religious school. Community clock in church tower desirable.

b. Bells and Gongs

For assembly, dismissal and fire-drill signals. At least one button on each floor for fire signals. Doorbell system for call of janitor.

2. Church Bells and Chimes

a. Ringing should be made readily possible without inconvenience. Housing for chimes player should involve full consideration of accessibility, lighting, heating and freedom from interruptions.

3. Telephones

a. Public Telephone. At least one public telephone on each floor, preferably in booths. Telephone in pastor's study and in church office.

b. House Inter-communicating Telephone. When size of plant dictates need of house telephone, a switch-board should be located in church office.

c. Hearing Devices for the Deaf. Hearing provision should be made for the deaf in a few seats in all large audience chambers.

4. Service Lifts and Elevators

Where arrangement of rooms demands service lifts, dumbwaiters, book elevators, or freight elevators should be provided. Small electrically operated passenger elevators are desirable in large institutions especially where a roof garden is maintained.

H. *Service Rooms*

1. Workshops

a. Workshop of Superintendent of Buildings, Engineer or Janitors

This shop should be equipped with tools and janitor's materials and supplies needed for repair work on any of the mechanical systems installed. Efficiency in the storage and handling of supplies should be possible through facilities provided. The equipment may consist of a carpenter's bench, vises, anvil, set of plumbing tools and the like.

b. Workshop for Stage Properties

Where additions to costumes and properties are planned the equipment should include

Work bench for (1) wood workers and (2) electricians; drafting table; sewing machine; dyeing equipment; cutting equipment; pressing equipment; closets, drawers, chests; tool outfits; stenciling equipment, and painting equipment.

This shop should provide at least 600 square feet for the use of church and community workers in making scenery, costumes, properties, etc. It should be readily accessible to the stage.

2. Service Office

Private room for superintendent of buildings and grounds. Janitors' or engineers' room should be conveniently located near heating plant and toilet rooms. Equipped with wash basin, sink and individual bath, thermostat, telephone, desks, record files, and other supplies. Signal system connects this room with entrances.

3. Fuel Room

Sufficiently large to hold season's supply of fuel; convenient to heating plant and to street or driveway in order to permit dumping of fuel directly from wagons. Dumping should be so accomplished as to eliminate necessity for levelling of fuel.

IV. CHURCH ROOMS

A. *Convenience of Arrangement*

1. Small church rooms should be so arranged about the foyer and auditorium that they are easy of access to exits and main auditorium.
2. They should be so arranged that they can be made to serve as separate rooms and also in conjunction with the main auditorium either as additions to the main room or as anterooms for various purposes.
3. At least two different exits out of main auditorium should be provided.

B. *Church Auditorium*

1. Size and Shape
   a. Size adequate with expansion for maximum number of people to be served and for estimated growth over the period of years to be covered by life of the building. Should allow a minimum of from seven to nine square feet of floor space for each individual, exclusive of pupit platform, chancel, choir gallery, etc.
   b. Shape
      Rectangular, square, or semi-circular, with the pulpit and choir visible from all seats. If rectangular, the length should never be more than twice the width.
2. Seating
   a. Pews or auditorium chairs on main floor or in balcony.
   b. Seats placed so that all auditors face pulpit.
   c. Not more than twelve seats between aisles.
   d. Seats should be provided with book-racks, communion cup holders and envelop containers.
   e. Kneeling racks should be provided where required.
   f. All pews should be distinctly numbered or lettered.
3. Illumination
   a. The natural lighting should be such as to provide at least three-foot candles of light for all seated in the audience chamber and in the balcony. This result can often be secured by overhead lighting.
   b. Windows to the right, left and rear should furnish the bulk of all natural lighting. No plain glass windows should be so near the front of the audience chamber as to cause auditors to face glaring light. Care should be taken to provide for elimination of all objectionable, irritating light in the eyes of auditors from windows in front of auditorium and in the eyes of pastor, speaker and choir from windows at the rear of the auditorium.
   c. All decorative windows should conform to the best standards of art and biblical illustration. Memorial windows should be indicated by small tablets located underneath the windows and not on the memorials themselves.
4. Walls and Ceilings
   In good condition, free from cracks and breaks. The color scheme should be consistent throughout and in harmony with the remainder of the building. It should be pleasing, restful, and suggestive of worship and in harmony with standards set for decorative attractiveness of internal structure. Recency of decoration and elimination of all discolorations and defacements is essential.
5. Floor of Auditorium
   a. Should be noiseless and durable.
   b. Cement overlaid with patent process or battleship linoleum is most desirable. Hard maple or hard pine is the most satisfactory wood. Where wood is used, aisles should be covered with linoleum or carpets.

6. Balcony
   a. Should be located only across rear of auditorium seating 300 and less than 400, and on three sides of auditorium seating more than 400.
   b. Front of balcony should be about 15 feet from floor.
   c. In evangelistic churches there should be direct stairways from balcony to platform.
   d. Seats should rise to afford perfect vision to a point at center of platform.
7. Pulpit or Altar and Platform
   a. Form to be determined by the denomination of the church and the interior finish of the auditorium.
   b. Platform
      Large enough to provide for choruses, special service pageants. and accessible from halls or dressing rooms on both sides, High enough to give all parts of auditorium easy view of speaker. A minimum height of 3 feet which should increase in direct proportion with the size of the auditorium where the auditorium floor is level.
   c. Movable rails.
   d. Movable furniture, such as chair stalls, lectern, pulpit, litany desk, organ console, etc.
   e. If construction of stage levels is necessary, they should be so constructed as to appear as an integral part of the architectural scheme.
   f. Appropriate chairs; at least three in number.
8. Baptismal Equipment
   a. Form to be determined by denomination of the church.
   b. Should be in plain view of congregation.
   c. If for immersion, there should be provision for
      (1) Separate dressing rooms for each sex with adjoining toilets.
      (2) Controlled temperature of the water.
      (3) Passage to and from baptistry concealed from congregation.
      (4) Appropriate robes and footgear (rubber).
9. Communion Equipment
   a. Service linen, individual service equipment.
   b. Table and at least three chairs. In harmony with interior finish of auditorium.
   c. Chancel or communion rail with kneeling steps where required.
10. Organ
   a. Modern pedal pipe organ, electric blower of ample capacity.
   b. Specifications for size, manuals, stops, organ divisions and mechanical features should follow details as given in the Appendix I, pages 166-204.

      The following generalized standards are desirable for auditoriums of varying sizes as indicated:

STANDARDS FOR TWO MANUAL PIPE ORGAN WITH ECHO

Suitable for Auditorium Seating 600 People or Less

Great Organ

1 Open Diapason—8 feet.
3 Strings—two of 8 feet each, one of 4 feet.
2 Flutes—one of 8 feet, one of 4 feet.
1 Reed—8 feet.

Swell Organ

1 Bourdon—16 feet.
1 Diapason—8 feet.
4 Strings—three of 8 feet each, one of 4 feet.
3 Flutes—one of 8 feet, one of 4 feet, one of 2 feet.
1 Reed—8 feet.
1 Vox Humana—8 feet.

Echo Organ

2 Strings—8 feet each.
2 Flutes—one of 8 feet, 1 of 4 feet.
1 Vox Humana—8 feet.
Chimes.

Pedal Organ

1 Diapason—16 feet.
1 Bourdon—16 feet.

STANDARDS FOR A THREE MANUAL PIPE ORGAN WITH ECHO

Suitable for Auditorium Seating 600 to 1,000 People

Great Organ

1 Open Diapason—8 feet.
2 Strings—one of 8 feet, one of 4 feet.
3 Flutes—two of 8 feet each, one of 4 feet.
1 Reed—8 feet.

Small Organ

1 Bourdon—16 feet.
2 Diapasons—one of 8 feet (open), one of 8 feet (stopped).
3 Strings—8 feet each.
1 Flute—4 feet.
2 Reeds—8 feet each.
1 Vox Humana—8 feet.

Choir Organ

1 Diapason—8 feet.
2 Strings—8 feet each.
4 Flutes—two of 8 feet each, one of 4 feet, one of 2 feet.
2 Reeds—8 feet each.

Echo Organ

(See Two Manual Specifications)

Pedal Organ

2 Diapasons—one of 16 feet, one of 8 feet.
2 Bourdons—16 feet each.
1 String—8 feet.
1 Flute—8 feet.

STANDARDS FOR A THREE MANUAL PIPE ORGAN WITH ECHO

Suitable for Auditorium seating 1,000 people or more

Great Organ

3 Diapasons—one of 16 feet (open), one of 8 feet (open), one of 8 feet (string).
3 Strings—8 feet each.
4 Flutes—two of 8 feet each, one of 4 feet, one of 2 feet.
1 Reed—8 feet.

Swell Organ

1 Bourdon, 16 feet.
2 Diapason—one of 8 feet (open), one of 8 feet (stopped).
4 Strings—8 feet each.
4 Flutes—one of 8 feet, two of 4 feet each, one of 2 feet.
2 Reeds—8 feet each.
1 Vox Humana—8 feet.
1 Mixture—three ranks.

Choir Organ

1 Diapasons—8 feet.
4 Strings—8 feet each.
4 Flutes—two of 8 feet each, one of 4 feet, one of 2 feet.
2 Reeds—8 feet each.

Echo Organ

(See Two Manual Specifications)

Pedal Organ

3 Diapasons—two of 16 feet each, one of 8 feet.
2 Bourdon—16 feet each.
1 String—8 feet.
2 Flutes—8 feet each.
1 Reed—16 feet.

c. Organ bench with music shelf of same material as casing.

d. The proper placing of organ should include:
   (1) Visibility of pipes.
   (2) Ample speaking room for organ.
   (3) Proper placing of pipes with relation to each other.
   (4) Proper placing with relation to the choir.

e. The placing of organ console should conform to the following standards:
   (1) It should be movable.
   (2) It should hold a strategic position for choir leading.
   (3) It should hold a strategic position for congregational singing.
   (4) It should hold a strategic position for correlation with minister.
   (5) It should be removable from choir gallery for pageantry.

f. Church organ tone or voicing should be safeguarded.

g. Organ Extensions
   (1) 2nd organ in gallery—echo organ.
   (2) 3d organ in choir room—set of pipes for processional and recessional.
   (3) 4th organ (2d console) in school assembly room.

h. Grand piano, in tune with organ, and placed in choir gallery or on front floor of the church auditorium.

11. Choir Gallery
   a. Size
      (1) Large enough to seat one-eighth to one-tenth of capacity of auditorium, i. e.:
         600 capacity—60-75 choir seats.
         1,000 capacity—100-125 choir seats.
         1,500 capacity—150-190 choir seats.
      (2) It should also accommodate organ console and grand piano.
      (3) Arranged so that curtains will close all but front for solo or quartet work.
      (4) Large enough platform space to accommodate pageants.
   b. Location
      Immediately behind pulpit-platform, separated therefrom by curtains and by its own 2-feet elevation.
   c. Construction
      (1) Built at one or two levels, with temporary seats clamped to risers, all of which may be rearranged for special song services, festivals, etc., or entirely removed for pageant production, thus furnishing three floor areas within stepping distance of each other:
         (a) Pulpit platform.
         (b) Choir gallery floor.
         (c) Choir gallery floor.
      (2) Easy of access for processionals, pageants, etc., through audience room or from choir rooms on either side.
      (3) Inclined plane approaches preferable to stairways.
   d. Equipment
      (1) Individual seats with rack (back of chair) to hold octavo music and hymnals when not in use.
      (2) Seats for adults and children.
      (3) Storage space for seats and risers.
      (4) Orchestral stands.
      (5) Conductor's stand and elevation.
   e. Neutral toned hangings or a back drop to cover organ and form background for pageant.

12. Choir Rooms
   a. Dressing rooms with entrance directly from street.
      (1) One room for boys and men (general rehearsal room) and one room for girls and women, both to be provided with:

(a) Toilet facilities.
(b) Wardrobes containing individual lockers or hooks for choir gowns, etc.
(c) Seats and tables.
(d) Rugs and pictures to make room attractive.
(e) Extra hooks and shelves along walls for pageant costumes.

(2) The dressing room for boys and men should be the general rehearsal room. The room should be sound-proof and the acoustic properties should be satisfactory. It should be equipped for this purpose with:
(a) Grand piano.
(b) Seats for all.
(c) Standing room for entire choir in which to form processional.
(d) Organ extension played from regular organ console.
(e) Filing music cabinets for octavo and oratorio scores (similar to those used for talking machine records).
(f) Desk, card catalogue, and repair and marking equipment for secretary and librarians.
(g) Director's office, small inner room, off from rehearsal room.
(h) Adequate artificial lighting.
(i) Easy and well-lighted approach to choir gallery.
(j) Signal or buzzer system from organ to rehearsal room.

13. Acoustics

If acoustics are poor there should be evidence of attempts to remedy them, by such devices as sounding-boards behind the pulpit, reverberation pads or nets, etc.

14. Visualization Equipment

a. Stereopticon Equipment (separate unit from moving-picture machine)
(1) Operated from side gallery on curtain at side front.
(2) Machine. Any standard make.
(3) Illuminants.
(a) For pictures up to ten feet in dark room, 400 Mazda lamp.
(b) For pictures up to thirteen feet in dark room, 1,000 Mazda lamp.
(c) For pictures over thirteen feet in dark room, arc lamp for direct current and Monoplane lamp for alternating current.

NOTE—For daytime projection where a certain amount of diffused light is unavoidable decrease diameter of picture by 25 per cent.

(4) Lens. Should be half-size objective lens of standard make.
(5) Equipment will vary according to the size of the room.

b. Moving Picture Equipment

(1) Booth

(a) Fire-proof according to the requirements of the town or city.

(b) Material. It should be completely lined with asbestos or steel.

(2) Motion Picture Projectors

(a) Portable machines have not as yet been perfected and are consequently not standard equipment.

(b) Standard Machines

All these machines require the use of a fireproof booth. Two of the first-class machines are the Simplex Motion Picture Projector with incandescent lamps and the Powers Cameragraph with incandescent lamps.

c. Screens

(1) Wall on which screen can be painted

(2) Opaque, white screen of cloth.

(3) Aluminum screen to be used only when colored pictures are not shown and where angle of view is not over 60 degrees. Preferable for motion pictures in long narrow audience room.

(4) Half-tone screen is probably as good for both stereopticon and motion picture use as any single screen.

(5) Curtain to be rolled from floor up and be entirely invisible when not in actual use.

d. Provision for Darkening the Windows of all rooms in which visualization equipment is to be used.

15. Cloak or Check Room

Convenient to entrance and so that people may pass by on way to or from the auditorium without confusion.
Should be equipped to permit use of a system of checking which should include provisions for wet umbrellas and rubbers.

C. *Chapel or Small Assembly Room*

A room with a seating capacity about one-quarter of main auditorium. Movable chairs. Equipped to meet the needs for which the main auditorium is too large.

D. *Parlor and Church Board Room*

A room large enough for meetings of the church board, for larger committees, and to serve as a church parlor. Fitted with long table, chairs, carpet and appropriate decorations. Should be cozy in nature and equipped with comfortable furniture.

E. *Pastor's Study*

Light, well ventilated and well heated, desk, filing cabinets, bookcases, small conference table and chairs. Convenient to church office but separated by sound-proof walls. Lavatory and toilet adjoining.

F. *Church Office*

Room for the church secretary equipped with desk, safe, filing cases, card index of membership, etc.

G. *Church Vault*

To be used by the pastor and the church officials for the preservation of church statistics and records. Should be damp-proof and fireproof. Should adjoin church office.

V. CHURCH SCHOOL ROOMS

A. *Location and Connection*

1. With Church Building

School should be maintained in a separate wing of the building or in a separate building, connected with the main church building by a loggia or cloister. This loggia should be provided with a movable sash for enclosing it in winter.

2. With Other Schoolrooms and Facilities

Church schoolroom should be so located as to be easy of access to exits, drinking fountains, toilets and auditorium. Each school room should open into exit hall without entering other rooms.

3. Assembly room should be located on ground or first floor and be easily accessible to classrooms and exits. Assembly room should have a number of entrances connecting with a wide maximum foyer at rear of hall and may be joined on two sides with a wide foyer.

B. *School Assembly Room*

1. Size and Shape

Seating capacity sufficient to accommodate entire school with provision for community growth. With rear balcony or with rear and side balconies. If the hall is rectangular its length should be approximately one-third more than its width. An assembly room, the main floor of which seats 300, is large enough to have a balcony across the rear. Where the main floor of an assembly room seats 400 or more a balcony on three sides may be provided.

2. Seating

a. Movable. Single chairs easily combined into banks by individual chair clamps. Variations in aisles should be made possible.

b. Folding type.

c. Size. The space between rows (from back of one seat to back of seat in front) at least three feet. Width of seat at least twenty inches.

d. Accessories

(1) Hat racks.

(2) Suitable letterings for aisles and numbering of seats.

3. Illumination, Window Placement and Line of Vision

Adequate for good reading or study light in all sections of the room. Three-foot candles is standard illumination. Not placed so far toward the front of the room or in the front wall that

audience faces direct light or cross lights. Pillars and posts should be so placed as not to obstruct illumination or to break the line of vision to the stage.

4. Walls, Ceiling and Floor
   a. Walls and Ceilings
      (1) These should be in good condition, free from cracks and breaks. Free from discolorations.
      (2) Decoration should be reasonably recent. General trend of decoration should be middle value, pure neutral. If light conditions are such that color is desired, modify the neutral slightly with whatever hue is needed.
      (3) Good reproductions of masterpieces of painting and sculpture appropriate for a church school should be provided.
   b. Floor
      (1) See standards for Church Auditorium Floor, Item IV, B, 5.
      (2) Ramp is necessary except possibly in very small assemblies. Ramp should begin about 20 feet back from the stage with a 6-inch rise every 10 feet to rear of hall. Adjustable (level or inclined floor) controlled by hydraulic pressure meets standard requirements.
      (3) Special Orchestra and Chorus Space
      Movable sectional floor to cover depressed orchestra pit with risers on either side extending above floor level.
5. Stage
   a. Size
      (1) Height. If seats of audience hall are placed on an inclined plane, maximum 2½ feet, if flat or oval at least 3½ feet.
      (2) Width of stage should be double the width of the proscenium opening. If opening is 30 feet wide, there should be about 15 feet on either side of it in order to have adequate room for assembling participants, moving scenery, lighting purposes, etc.
      (3) Depth. Should approximate width of proscenium opening.
      (4) Back of stage should not be the outside wall of building, but should be a wooden partition harmonizing with general decorative scheme with passageway at least behind it. Sliding doors opening into room on stage level which, when partitions are open, can be used as an extension or inner room.
      (5) A set of risers for accommodating the chorus or for special church school exercises. A set of movable risers is desirable.
   b. Character
      (1) Level (not an inclined plane).
      (2) Soft wood floor.
      (3) Elimination of apron entirely or reduced to a minimum.

c. Proscenium Arch

(1) Size. Minimum opening of 30 feet, with a minimum height 20 feet. Forty-foot opening requires at least 25 feet.

(2) There should be sufficient space above the opening for the raising of drops without rolling or tripping them. Space above the stage should be used for this purpose only. Portable, adjustable pilasters and adjustable piping for curtain hanging are desirable.

d. Scenery

Should consist of curtain, pylon sets, sky cyclorama, screens, box sets, wings and drops. Most desirable scenery combination includes curtain, pylons and sky cyclorama. Scenery with a minimum of constructed parts and a maximum of lighting effects and modern equipment lending itself to the greatest amount of flexibility, is most desirable.

e. Curtain

A draw curtain is preferable. The curtain should be fireproofed. It is desirable to have a regular asbestos fire curtain in addition.

f. Combination Steps, Extension Stage, Ramps, etc.

There should be no steps leading to the stage from the sides or back, but sectional steps leading from the audience room proper to the stage. An extension stage is frequently found desirable as well as inclines and ramps that can connect stage with audience room proper.

g. Portable Small Stage

Provision should be made wherever possible for a portable stage for the opposite end of the hall from the stage proper.

h. Dressing Rooms

Good size dressing rooms for men and women, located near the stage. These rooms should be equipped with tables, mirrors, and ample clothes-hooks or racks.

i. Buzzer System

Electrical buzzer connections with orchestra, dressing rooms and lights operator at rear of room.

6. Musical Equipment

a. Piano

b. Pipe organ. This instrument may take place of orchestra when latter cannot be maintained.

c. Music stands with light equipments so shaded that all light will be shut off from line of vision of audience.

7. Visualization Equipment

For standards see Church Rooms, item IV, B, 14.

8. Auxiliaries to Assembly Room

a. Storage Room for Risers and Seats
Easily accessible to audience room.

b. Costume Room—Property Room
Rooms with wardrobes to keep costumes and properties safe and in good condition are essential.

c. Bulletin Board

One or more illuminated bulletin boards should be installed outside of buildings.

d. Box office for special benefits should be provided.

C. *Classrooms and Department Assembly Rooms*

1. Adequacy of Number

a. Department Assembly Rooms

Separate for each of the children's departments, beginners, primary and junior; also in larger schools (300 or over) for the higher departments, intermediate, senior and young peoples'.

b. Classrooms

There should be enough classrooms to supplement the use of the assembly rooms so that classes should not exceed 30 members except in the adult division. Separate classrooms should be provided for every class of the junior and all higher departments, also for the cradle roll and teacher training classes.

c. Sound-proofness

Where space is not available for separate assembly rooms for the different departments in addition to classrooms, it is possible by means of sliding doors (well fitted) to make an assembly room from two or three classrooms. It is desirable that each class have a room which it feels to be its own and that the room be free from the disturbances of other class activities which arise when classes are separated by curtains or screens.

Church school classes should have working conditions as adequate as those of any school.

2. Size and Shape

Should provide 15 square feet of floor space and 200 cubic feet of air space per child.

A room 22 feet wide by 28 feet long by 12 feet high will provide for 30 pupils and is the best shape for instruction purposes.

3. Seats and Desks

a. For beginners and primary departments tables and chairs of varying sizes are desirable. Individual, movable and adjustable seats and desks for junior and intermediate departments. For other departments the kind of equipment should be determined by size of class and mode of work.

b. Desks for teachers should be of adequate size with drawer space arranged for various size papers. Should not have platform. Teacher's chair of same material and finish as desk.

4. Illumination and Window Placement

a. Glass area should be one-fifth to one-quarter area of floor—determined by latitude and by the presence or absence of light obstructions.

b. Windows

When furniture is permanently attached to floor, light should come from one side only, i. e., from the left of the seated

student. With movable furniture windows should be located at left and rear or at left only. Windows should not be so near the front wall as to cause students to face the direct light. A dead wall space of six to seven feet is desirable at the left front. Wide mullions and piers should be avoided so as to prevent the casting of shadows. Windows should be of plain glass except where fire regulations require fire wire glass. Windows should be sufficiently near the ceiling to permit the complete lighting of the opposite side of the room. For example, the windows of rooms which are 24 feet wide should extend close to ceiling of a 12-foot height. Windows should begin at a height of 3½ to 4 feet from the floor.

c. Shades should be adjustable from center of the windows. The color should be bisque or light sage.

5. Walls and Ceilings

Here should be considered plastering, finish, texture, condition, picture mold, chair rail and dado. Hard, smooth, non-glass plaster is the standard with cement plaster for dado with avoidance of grooves and ledges. Deadened ceiling where "floating ceiling" is used.

6. Floors

Cement, overlaid with battleship linoleum or hardwood, durable, well-joined and not dust retaining, are desirable standards. Sanitary covers should be provided at junction of walls and floors. All floors should be sound-proofed.

7. Blackboards and Bulletin Boards

a. Blackboards should be of highest grade slate or ground glass, dull black. Located on front and side of room; height of chalk rail, for children 4 to 6 years of age, 24 inches; 6-8 years of age, 26 inches; 8-10 years of age, 28 inches; 10-14 years of age, 30 inches; 14 years or over, 32-36 inches. Amount of surface determined by the number of children accommodated; light curtains for covering boards on dark days or when not in use.

b. Bulletin Boards

Space not provided with blackboards or space above boards may be provided with cork bulletin boards for illustrative purposes.

c. Picture Rails

Provision for picture rails in the kindergarten and primary rooms on which pictures may be placed during the class session.

8. Doors and Closets

a. Doors should swing in both directions or open outwards; no thresholds.

b. Closets and Built-in Bookcases

There should be at least one in each room, large enough to provide for supplies, books, globe, and maps when not in use. Located as near the teacher's desk as construction permits.

9. Instructional Equipment
   Provision for maps, stereopticon, globes, display exhibits, scrapbooks, sand-table, modeling clay, and the like according to needs of class or division. Pianos for all assembly rooms.

D. *Cloak Rooms and Wardrobes*

Cloak rooms should adjoin classrooms of little children and be under teacher control. Cloak rooms should provide ample space for winter wraps for each child. The heights of hooks should be adapted to heights of children. Umbrella racks should be provided. Cloak rooms should be easily accessible to children and so arranged as to avoid confusion. Cloak rooms should be provided with natural and artificial light.

E. *Church School Superintendent's Office*

1. Should be located on first floor near main school entrance. Should consist of a combination reception room and secretary's office and an inner private office. Equipped for efficient transaction of the school business. Cabinets for filing, desk and telephone connections should be part of equipment.
2. Workroom for printing, mimeographing, etc., with shelves for stock equipment, should connect with this office.

F. *Supply Rooms*

Conveniently located for janitor and superintendent, ventilated and fire-proof. These should be adequate in size and number. Provided with ample facilities for classified and efficient storage. A church school requires a maximum of storage space.

VI. COMMUNITY SERVICE ROOMS

A. *Rooms for General Use*

1. Recreation and Dining Room
   a. Size. Large enough to seat at table at least 50 per cent. of the people served by the community church. Allow ten square feet per person to be served.
   b. Equipment. Material for take-down tables, temporary platform, piano, folding chairs.
2. Kitchen
   a. Location. Convenient to the recreation and dining room. Size should be one-tenth of the area of the larger room. Separate service entrance should be provided.
   b. Equipment. A range and where possible gas plates. Large kettles and other necessary utensils for cooking for large groups. Dishes, silver and linen for maximum number to be served. Sinks, hot and cold water, dish washing facilities and draining racks, etc. Table for scraping dirty dishes with garbage receptacle underneath. Broad and sufficient serving space between kitchen and dining room with counter shelves for quick service. Two-way swing doors between kitchen and dining room with kicking plate and glass panel. Refrigerator equipment. Vegetable storage. Steam kettles, electric potato paring machines, electric cream freezers and electric dishwashers are desirable equipment.

3. Library and Reading Room
   a. Location. Near main entrance or with separate outside entrance.
   b. Equipment
      (1) Library. Books and periodicals, reference books, encyclopedias, church histories, and other church references, adjustable book shelves, librarian's desk, card catalog, typewriter, repair and marking equipment, charging system and records.
      (2) Reading room. Tables or desks preferably with seclusion partitions, individual reading lights, comfortable chairs, racks for wraps and umbrellas, holders for newspapers and magazines.

B. *Rooms for Social Service*

1. Women's Social Room and Mother's Room
   Equipped with tables, chairs, couches, and furnished in a way to make it an attractive meeting place for women's clubs and organizations. Should adjoin the day nursery room. Should have large enough closet or anteroom to enclose sewing machines and other equipment which might be used by different organizations using the room.
2. Girls' Club-rooms
   a. Location. Accessible and visible from street, with separate outside entrance. Convenient to library.
   b. Equipment should consist of chairs, tables, newspapers and magazine racks, trophy cases and bulletin board. Wardrobes or closets to be used by separate organizations for keeping costumes, and other equipment. Pictures and pennants to make room an attractive meeting and gathering place for girls.
3. Men's Club-room
   a. Location. Accessible and visible from the street. Direct entrance from outside of building. Convenient to library.
   b. Equipment should consist of comfortable chairs, tables, newspaper and magazine racks, chess tables, pictures, rugs, etc., to make the room an attractive lounging and rest room for men.
4. Boys' Club-rooms
   Equipped similarly to the girls' club-room.
5. Nurses' and Rest Room
   a. Location. Convenient to school classrooms.
   b. Equipped with adequate first-aid outfit, chairs, reclining couch, wash stand with hot and cold water and toilet.
6. Day Nursery
   a. Located near mothers' room.
   b. Equipped with cribs, kindergarten chairs and tables, toys, etc.
7. Civic Center Room
   a. Used as a room for evening classes in citizenship, for social gathering and special talks, and for committees and other bodies engaged in community work.

b. Equipped with text books, writing materials, lantern and reflectoscope, signs and placards, and other materials used in civic instruction. Pictures with American ideals should predominate.

8. Social Workers' Office

This room should be equipped with desk table and chairs for conferences and small group meetings. Filing cases for card records of visits, cases, and follow up work. A small library of special books to be referred to in personal consultations is desirable.

C. *Rooms for Recreation and Athletics*

1. Gymnasium
   a. Location. On ground floor, accessible from playground by outside door.
   b. Adequate dimensions are 50 feet by 75 feet by 16 feet. Where balcony is provided for audience or for running track, the height should be increased to 22-25 feet. Walls light colored. Windows and lights protected by heavy large meshed wire. Where support columns are needed they should be padded to a height of 6 feet. Should be sound-proof.
   c. Equipment. Provision for basketball, volley ball, indoor baseball, and other group activities. Pulley weights, horizontal and parallel bars, climbing ropes, and ladders, jumping standards, flying rings, dumb bells, Indian clubs, boxing gloves, quoits, etc.
   d. Athletic Director's office. Fully equipped and located so as to control all athletic rooms.

2. Locker Rooms

Adjacent to the gymnasium. Separate for sexes. Steel lockers. Ventilated. Minimum of large dressing lockers with maximum of small storage lockers.

3. Showers

Side showers, regulated with ease from entrance, curtained entrances, adjacent to locker rooms. Hot and cold water should be obtainable at all times, at each shower. This last standard requires careful consideration when plumbing is being installed.

4. Swimming Pool

Easily accessible from locker rooms with separate entrances for each sex. Graduated depth. Tiled bottom and sides. Should be at least 15 by 30 feet. Provision for sanitary maintenance, for frequent and adequate cleansing of the pool, for a continuous and filtered water supply, for the sterilization and laundering of swimming suits and towels and for drying hair should be included. Provision for constant supervision of pool while in use requires a swimming attendant's office with wide window overlooking the pool.

5. Hand Ball Courts

Provision can be made for these in a small room, e. g., 12 by 16 feet. Outdoor courts can often be made against blank walls of the building, and if a concrete floor is provided can be used all year. Where separate provision is not made for hand ball, one or more wall spaces in the gymnasium should be left clear of apparatus for use with hand ball.

6. Game or Amusement Rooms

   Equipped with stands for checkers, shuffle board, chess, cards and other concentration games. Where separate room is not available for these games they should be distributed through the several club-rooms. Where billiard or pool tables are installed, equipment for cues and their care should be provided. There should be space enough for chairs at sides or ends of rooms. Room 16 by 20 feet will accommodate two tables. Such a room is preferably located near physical director's office or some other room where an officer is in constant attendance. Efficient upkeep of all equipment is essential.

7. Bowling Alley

   Most economically built as a pair of alleys. Should be sound-proof. Bank of seats at end for spectators and for contestants in tournaments. Two alleys require a space 11 feet 6 inches by 83 feet. Each additional alley will require an additional 5 feet 9 inches in width. Gallery at rear will be additional to the above length.

Construction Classification of the American Institute of Architects

TYPE A A building constructed entirely of fire-resistive materials, including its roof, windows, doors, floors and finish.

TYPE B A building of fire-resistive construction, in its walls, floors, stairways and ceilings, but with wood finish, wood or composition floor surface, and wood roof construction over fire-resistive ceilings.

TYPE C A building with masonry walls, fire-resistive corridors and stairways, but with ordinary construction otherwise, i. e. combustible floors, partitions, roofs and finish.

TYPE D A building with masonry walls, but otherwise ordinary or joist construction and wood finish.

TYPE E A frame building constructed with wood above foundation with or without slate or other semi-fireproof material on the roof.

Appendix II

SAMPLE SPECIFICATIONS OF ONE TYPE OF TWO MANUAL PIPE ORGAN

Suitable for Auditorium seating 600

MANUALS—Compass CC to C, 61 notes.
PEDALS—Compass CCC to F, 30 notes.
ACTION—Electro-pneumatic throughout.
Duplex Chest.

GREAT ORGAN

1	8′	Open Diapason	metal	73 pipes
2	8′	Dulciana	metal	61 "
3	8′	Melodia	wood	73 "
4	8′	Gamba	metal	61 "
5	4′	Octave	metal	61 notes
6	4′	Flute d'Amour	wood and metal	73 pipes
7	8′	Oboe Horn	reeds	61 "

SWELL ORGAN

8	16′	Bourdon	wood	49 notes
9	8′	Violin Diapason	metal	61 pipes
10	8′	Rohr Flute	wood	61 "
11	8′	Dulciana	metal	61 notes
12	8′	Gamba	metal	61 "
13	4′	Flute	wood and metal	61 "
14	2′	Flautina	metal	61 "
15	8′	Vox Celeste	metal	49 pipes
16	8′	Oboe Horn	reeds	61 notes
17	8′	Vox Humana	reeds	61 pipes

ECHO ORGAN

(Played from Great Manual)

18	8′	Spitz Flute	wood	61 pipes
19	8′	Muted viola	metal	61 "
20	8′	Flute Celeste	wood	49 "
21	4′	Wald Flute	wood and metal	61 "
22	8′	Vox Humana	reeds	61 "
23		Chimes		

PEDAL ORGAN

24	16′	Bourdon	wood	30 pipes
25	16′	Lieblich Gedeckt	wood and metal	30 notes

COUPLERS

26	Swell to Great	31	Great to Pedal
27	Swell to Great 4′	32	Swell to Pedal
28	Swell to Great 16′	33	Swell 16′
29	Swell 4′	34	Echo "On," Great "Off"
30	Great 4′		

MECHANICALS

35 Echo Tremulant
36 Swell Tremulant
Crescendo Indicator

ADJUSTABLE COMBINATIONS

(Operated by pistons placed under respective manuals)

Piston No. 1
Piston No. 2 } Affecting Swell and Pedal Stops
Piston No. 3

Piston No. 1
Piston No. 2 } Affecting Great, Echo and Pedal Stops
Piston No. 3

PEDAL MOVEMENTS

1 Great to Pedal Reversible
2 Balanced Swell Expression Pedal
3 Balanced Echo Expression Pedal
4 Grand Crescendo Pedal

Organ Bench with Music Shelf of same material as Casing
Concave Pedal
Electric Blower of ample capacity

SAMPLE SPECIFICATIONS OF A THREE MANUAL PIPE ORGAN

Suitable for an Auditorium seating 600-1,000 people

MANUALS—Compass CC to C, 61 Notes.
PEDALS—Compass CCC to G, 32 Notes.
ACTION—Electro-pneumatic throughout.

GREAT ORGAN—5″ Wind

1	8′	Open Diapason	metal	61	pipes
2	8′	Doppel Flote	wood	73	"
3	8′	Clarabella	wood	73	"
4	8′	Dulciana	metal	73	"
5	4′	Flute d'Amour	wood and metal	73	"
6	4′	Octave	metal	61	"
7	8′	Tuba	reeds	61	"

Stops 2, 3, 4, 5, 7 in Choir Swell Box

SWELL ORGAN—5″ Wind

8	16′	Bourdon	wood and metal	73	pipes
9	8′	Open Diapason	metal	73	"
10	8′	Stopped Diapason	wood	73	"
11	8′	Salicional	metal	73	"
12	8′	Vox Celeste	metal	61	"
13	8′	Aeoline	metal	73	"
14	4′	Flute Harmonique	wood and metal	73	"
15	8′	Oboe	reeds	61	"
16	8′	Cornopean	reeds	73	"
17	8′	Vox Humana	reeds	61	"

CHOIR ORGAN—5″ Wind
(Augmented)

18	8′	Violin Diapason	metal	73 pipes
19	8′	Doppel Flote	wood	73 notes
20	8′	Melodia	wood	73 "
21	8′	Dulciana	metal	73 "
22	4′	Flute	wood and metal	73 "
23	8′	Tuba	reeds	61 "
24	8′	Viola da gamba	metal	73 pipes
25	2′	Piccolo	metal	61 "
26	8′	Clarinet	reeds	73 "

ECHO ORGAN
(Played from Great Manual)

27	8′	Spitz Flute	wood	61 pipes
28	8′	Muted Viola	metal	61 "
29	8′	Flute Celeste	wood	49 "
30	4′	Wald Flute	wood and metal	61 "
31	8′	Vox Humana	reeds	61 "
32		Chimes		25 notes

PEDAL ORGAN—5″ Wind

33	16′	Open Diapason	wood	44 pipes
34	16′	Bourdon	wood	44 "
35	16′	Lieblich Gedeckt	from No. 8	32 notes
36	8′	Flute	from No. 34	32 "
37	8′	Octave	from No. 33	32 "
38	8′	Violoncello	from No. 24	32 "

COUPLERS

39	Great to Pedal	51	Choir 4′
40	Swell to Pedal	52	Choir 16′
41	Choir to Pedal	53	Swell to Choir
42	Swell to Pedal 4′	54	Swell to Choir 4′
43	Great to Pedal 4′	55	Swell to Choir 16′
44	Swell to Great	56	Swell 4′
45	Swell to Great 4′	57	Swell 16′
46	Swell to Great 16′	58	Choir to Swell
47	Choir to Great	59	Swell Unison in Key Jamb
48	Choir to Great 4′	60	Choir Unison in Key Jamb
49	Choir to Great 16′	61	Echo "On," Great "Off"
50	Great 4′		

MECHANICALS

62	Swell Tremulant	64	Echo Tremulant
63	Choir Tremulant		Crescendo Indicator

ADJUSTABLE COMBINATIONS
(Operated by pistons placed under respective manuals, also by corresponding pedal pistons)

Piston No. 1
Piston No. 2
Piston No. 3
Piston No. 4
Piston No. 5
} Affecting Swell Organ with duplicate Pedal Studs

Piston No. 1
Piston No. 2
Piston No. 3 } Affecting Great and Echo Organs with duplicate Pedal Studs
Piston No. 4
Piston No. 5

Piston No. 1
Piston No. 2 } Affecting Choir Organ
Piston No. 3

Piston No. 1
Piston No. 2
Piston No. 3 } Affecting Pedal Organ
Piston No. 4

Piston No. 1
Piston No. 2 } Affecting Full Organ
Piston No. 3

PEDAL MOVEMENTS

1 Great to Pedal Reversible
2 Balanced Swell Expression Pedal
3 Balanced Choir Expression Pedal
4 Balanced Echo Expression Pedal
5 Grand Crescendo Pedal

Organ Bench with Music Shelf of same material as Casing
Concave Pedal
Electric Blower of ample capacity

SAMPLE SPECIFICATIONS OF A THREE MANUAL PIPE ORGAN

Suitable for an Auditorium seating more than 1,000 people

MANUALS—Compass CC to C, 61 Notes.
PEDALS—Compass CCC to G, 32 Notes.
ACTION—Electro-pneumatic throughout.

GREAT ORGAN

1	16′	Open Diapason	wood and metal	61	pipes
2	8′	First Open Diapason	wood and metal	61	"
3	8′	Second Open Diapason	metal	61	"
4	8′	Doppel Flote	wood	73	"
5	8′	Melodia	wood	73	"
6	8′	Gemshorn	metal	73	"
7	8′	Dulciana	metal	73	"
8	8′	Unda Maris	metal	61	"
9	4′	Flute d'Amour	wood and metal	73	"
10	2′	Piccolo	metal	61	"
11	8′	Tuba	reeds	73	"

(All stops except Nos. 1 and 2 in Choir Swell Box)

SWELL ORGAN

12	16′	Bourdon	wood	73 pipes
13	8′	Open Diapason	wood and metal	73 "
14	8′	Stopped Diapason	wood	73 "
15	8′	Flute Traverso	wood	73 "
16	8′	Viole d'Orchestre	metal	73 "
17	8′	Vox Celeste	metal	61 "
18	8′	Aeoline	metal	73 "
19	4′	Flauto Traverso	wood and metal	73 "
20	4′	Principal	metal	73 "
21	2′	Flautina	metal	61 "
22	3 Rks.	Dolce Cornet	metal	219 "
23	8′	Cornopean	reeds	61 "
24	8′	Oboe and Bassoon—round tone—soft	reeds	61 "
25	8′	Vox Humana—very soft—small scale	reeds	61 "
26	8′	Salicional	metal	73 "

CHOIR ORGAN

27	8′	Geigen Principal	metal	73 pipes
28	8′	Doppel Flote	wood	73 notes
29	8′	Melodia	wood	73 "
30	8′	Gemshorn	metal	73 "
31	8′	Dulciana	metal	73 "
32	8′	Unda Maris	metal	61 "
33	8′	Viola da Gamba	metal	73 pipes
34	4′	Flute	wood and metal	73 notes
35	2′	Piccolo	metal	61 "
36	8′	Saxaphone	reeds	73 "
37	8′	Clarinet	reeds	61 "

ECHO ORGAN

(Played from Great Manual)

38	8′	Spitz Flute	wood	61 pipes
39	8′	Muted Viola	metal	61 "
40	8′	Flute Celeste	wood	49 "
41	4′	Wald Flute	wood and metal	61 "
42	8′	Vox Humana	reeds	61 "
43		Chimes		20 bells

PEDAL ORGAN

44	16′	Open Diapason	wood	44 pipes
45	16′	Bourdon	wood	44 "
46	16′	Violon	from No. 1	32 notes
47	16′	Lieblich Gedeckt	from No. 12	32 "
48	8′	Octave Bass	from No. 44	32 "
49	8′	Violoncello	from No. 33	32 "
50	8′	Dolce Flute	from No. 45	32 "
51	8′	Gedeckt	from No. 14	32 "
52	16′	Tuba	20 from No. 11	32 "

COUPLERS

53 Great to Pedal
54 Swell to Pedal
55 Choir to Pedal
56 Swell to Pedal 4′
57 Great to Pedal 4′
58 Swell to Great
59 Swell to Great 4′
60 Swell to Great 16′
61 Choir to Great
62 Choir to Great 4′
63 Choir to Great 16′
64 Great 4′
65 Choir 4′
66 Choir 16′
67 Swell to Choir
68 Swell to Choir 4′
69 Swell to Choir 16′
70 Swell 4′
71 Swell 16′
72 Choir to Swell
73 Swell Unison in Key Jamb
74 Choir Unison in Key Jamb
75 Echo "On," Great "Off"

MECHANICALS

76 Swell Tremulant
77 Choir Tremulant
78 Echo Tremulant
Crescendo Indicator

ADJUSTABLE COMBINATIONS

(Operated by pistons placed under respective manuals, also by corresponding pedal pistons)

Piston No. 1, Piston No. 2, Piston No. 3, Piston No. 4, Piston No. 5 — Affecting Swell Organ with duplicate Pedal Studs

Piston No. 1, Piston No. 2, Piston No. 3, Piston No. 4, Piston No. 5 — Affecting Great and Echo Organs with duplicate Pedal Studs

Piston No. 1, Piston No. 2, Piston No. 3, Piston No. 4 — Affecting Choir Organ

Piston No. 1, Piston No. 2, Piston No. 3, Piston No. 4 — Affecting Pedal Organs

Piston No. 1, Piston No. 2, Piston No. 3 — Affecting Full Organ

PEDAL MOVEMENTS

1 Great to Pedal Reversible
2 Balanced Swell Expression Pedal
3 Balanced Choir Expression Pedal
4 Balanced Echo Expression Pedal
5 Grand Crescendo Pedal

Organ Bench with Music Shelf of same material as Casing
Concave Pedal
Electric Blower of ample capacity

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